

EXHIBIT C

Analysis and Evaluation of

1. "Review Of The Response By The Oklahoma Department Of Human Services To The Suspected Abuse And Neglect Of Children In Its Care," by John Goad, A. M., Dated March 15, 2011
2. "A Review of the Oklahoma Department of Human Services' Child Welfare Practices from a Management Perspective," by Viola P. Miller, Ed. D., Dated March 15, 2011
3. "Report Of Expert Testimony," by Dr. A. Eugene Reynolds dated March 15, 2011
4. "Affidavit of Peg Hess, Ph. D.," dated March 12, 2009, "Expert Report 3-12-09 (Oklahoma case).pdf" & "D. G. et al. v. Henry et al. Review of Named Plaintiffs' Case Files," by Peg McCartt Hess, Ph. D., ACSW, dated September, 2009

and their deposition testimony, respectively,

by Shlomo Sawilowsky, Ph. D.
June 7, 2011

My name is Shlomo S. Sawilosky. I have been hired by Riggs, Abney, Neal, Turpen, Orbison & Lewis to provide evaluation, analysis, advice, and opinions concerning the expert reports offered by Plaintiffs' in this case.

I am currently employed by Wayne State University. I am a Distinguished Faculty Fellow, and Professor of Evaluation and Research in the Division of Theoretical and Behavioral Foundations, College of Education. I received my Ph. D. in Curriculum and Instruction with program specialization in Educational Measurement,¹ Research,² and Evaluation³ from the University of South Florida in 1985. My area of concentration of doctoral studies and dissertation was in Educational Statistics.⁴

I am or have been a member of the American Educational Research Association (Division D Measurement and Evaluation, and SIG/ Educational Statisticians), the American Mathematical Association, the American Psychological Association (Division 5, Measurement & Evaluation), the American Psychological Society, the American Statistical Association, the National Council on Measurement in Education, the Psychometric Society, and the American Counseling Association⁵, and the American Institute of Aeronautics and Astronautics. I am a Fellow of the British Royal Statistical Society, and I am a past president of American Educational Research Association SIG/Educational Statisticians.

I have over 320 publications and conference presentations, which include two books, over 115 peer reviewed articles, book chapters, and abstracts in recognized national and international journals, and over 100 peer reviewed presentations at the annual conferences of national and international professional organizations and academic societies, on the topics of applied statistics and data analysis, research design, psychometrics, and program evaluation. I have published over 35 standardized or criterion referenced tests in the fields of education and psychology. I have published two dozen entries in statistics encyclopedias. I am the editor of the *Journal of Modern Applied Statistical Methods* and have served on the editorial board or as an ad hoc reviewer for many peer reviewed journals, such as the *Journal of Educational and Behavioral Statistics*, *Statistics in Medicine*, *Computational Statistics and Data Analysis*, *Journal of Nonparametric Statistics*, the *British Journal of Statistical and Mathematical Psychology*, *Psychological Bulletin*, *Psychological Methods*, among others.

My company, Shlomo Sawilowsky, Inc., bills all invoices for work I perform. My company charges \$150/hr for my time when I am working at home, plus any non-office supply related expenses approved by counsel. The rate for depositions within 25 miles travel is \$175/hr. When travel is required my rate is \$2,000 for the first day, and \$1,000 per day thereafter, \$49 per day per diem, plus all travel related expenses (e.g., flight, car rental, hotel), whether for counsel or deposition. I do not work from one hour prior to sundown Friday evening through one hour after sundown Saturday/Jewish holydays.

¹ My area of expertise in this discipline is in classical measurement theory.

² My area of expertise in this discipline is the entire gamut of social and behavioral research and experimental design.

³ My area of expertise in this discipline is in quantitative and qualitative program evaluation. Although I served as an assistant dean or interim assistant dean for about three years and had among my administrative duties oversight of the departments of Educational Leadership and Policy Studies, and Instructional Technology, I do not claim to have content expertise in policy evaluation or personnel/individual performance evaluation, respectively.

⁴ My area of concentration is in Monte Carlo simulation methods, and subareas of specialty are in nonparametric, robust, exact, and permutation statistics.

⁵ Formerly known as the American Personnel and Guidance Association.

Following my critiques, signature, and date, I have attached my Wayne State University *c. v.*, my company (Shlomo Sawilowsky, Inc.) resume, and a brief resume of pre-professorial work experiences. The last attachment in this document is a listing of materials I have considered in this case, apart from references in the literature that are cited following each critique. I have forwarded all electronic documents I have authored, and all to/from emails related to this case excluding those that I have been instructed by counsel for Defendant that are considered privileged work products, to Mr. Jamey Iceberg of Riggs, Abney, Neal, Turpen, Orbison & Lewis for production. I did not write any documents or notes by hand.

Summary

Mr. John Goad produced a report containing fundamental research mistakes and data analysis errors; testified to his inability to explain his methodology or how he analyzed data for his report; and counsel for Plaintiffs admitted Mr. Goad is not proffered as an expert competent to conduct, explain, or defend the report he submitted on the basis of statistical analysis, research design, or psychometrics. Therefore, I recommend the Court not rely on Mr. Goad's report in any way.

Dr. Viola Miller admitted she is not a methodology expert capable of carrying out a program evaluation. She relied extensively on hyperbole as the basis of the persuasiveness of her arguments. For example, she used the term risk or trend thirty times without having collected any data and calculating a single risk or trend statistic. Hence, I urge the Court not to rely on any statements in her report that are evaluative of the OKDHS from a programmatic perspective.

Dr. Eugene Reynolds opined on the psychological state of clients he had not seen, and/or had not seen their specific case report. He asserted cause of psychological harm without having conducted any causal study design.

Dr. Peg Hess filed a cart before the horse affidavit. She alleged trend (although she recanted eleven weeks later after she had read five children's case files), likelihood, and prediction of harm based on Plaintiffs' allegation, without having conducted any independent study, data collection, or data analysis. She determined the OKDHS system required systemic repair (although eleven weeks later she admitted she could not generalize from five case studies to the population served by OKDHS). She recommended changes, each of which are "necessary but insufficient," without having conducted any literature review or conducted any efficacy study to determine each recommended change is necessary to bring about the remedy she espoused.

In summary, these experts for Plaintiffs offered the Court opinions that were (a) rife with methodology errors and misunderstandings, (b) assertions and speculations, and (b) bereft of rigorous scientific principles underlying evaluation and research methodology. Hence, I urge the Court to give little or no weight to their opinions.

1. "Review Of The Response By The Oklahoma Department Of Human Services To The Suspected Abuse And Neglect Of Children In Its Care" by John Goad, A. M., Dated March 15, 2011

I have read Mr. Goad's report and deposition. Mr. Goad, a social worker, is not an expert in research design, psychometrics, evaluation, or data analysis. As set forth below, I outline many fundamental mistakes and misunderstandings contained in his report; demonstrate that Mr. Goad testified to his inability to explain what or why he, or others purported to be under his supervision, did what was done in the report he submitted; and that counsel for Plaintiffs admitted Mr. Goad is not proffered as an expert competent to conduct, explain, or defend the report he submitted on the basis of statistical analysis, research design, or psychometrics. Therefore, I recommend the Court not rely on Mr. Goads report in any way.

Research Design

Mr. Goad described his work as a "research review"⁶ known as a "cross-sectional" design. A cross-sectional design (where observations are taken on a set of study subjects, each selected because they are at different time point in a process or progression of events), is a crude approximation of a longitudinal design (where observations are taken on the same subject over time).^{7, 8} For example, suppose a medical researcher wanted to study the effects of a disease that takes ten years to run its course. Instead of tracking a patient who has this disease over ten years (a longitudinal study), the researcher conducting a cross-sectional study would select individuals⁹ at a single point in time who are matched on as many covariates as possible that are literature-linked to the disease at specified time intervals after diagnosis of the presence of the disease.¹⁰ If the disease is known to have a linear progression, the researcher might choose a patient (or random cohort of patients), who is at the six months, one year, 1 ½ year, ... and 10 year mark since their diagnosis. Or, if the progression is known to be non-linear, the researcher might choose, for example, a patient (or random cohort) at the two week, six month, 3 year, ... and 10 year mark since diagnosis.

Of course, no one would select a cross-sectional design for the sake of accuracy and precision; it is a crude estimate invoked to save time and money, and because they are at most

⁶ Page v, 1

⁷ In the introductory or elementary research design textbooks arena there are authors who asserted that the analysis of any random sampling can be considered a cross-sectional design, under the premise that a random sample should produce a scatter-shot of everything in the universe. This is a naïve assertion, because in order to ensure representation for strata (or clusters), a stratified (or clustered) random sampling strategy must be invoked. In this case, there is no way to assume a simple random sample will yield sampling elements at the linear (and even more so the specified non-linear) time points necessary. There are similar views in the program evaluation literature (e.g., Fitzpatrick, Sanders, & Worthen, 2011, p. 392), but at least that view was mitigated with the prescription of subgroup comparisons (i.e., stratifications) as an integral part of the design.

⁸ Krathwohl (1993) noted, "Cross-sectional studies...need to be viewed with some caution," (p. 365) and "Researchers cannot be sure that the results are the same as would be obtained from longitudinal data," (p. 366).

⁹ An alternative approach is to select a randomly sampled cohort at each time interval.

¹⁰ This is not restricted to medical research. See, e. g., an educational research design application by Sax (1979), page 98.

point-in-time descriptive, this design cannot be used to assess process or change, and is highly susceptible to speculation. Neuman (1991) noted, "Cross-sectional research is usually the simplest and least costly of the alternatives. Its disadvantage is that it can rarely capture social processes or change,"¹¹ and similar comments were by other research design textbook authors, such as Wiersman¹² (1995) and Charles (1995)¹³. Mason and Bramble (1997) stated, "Cross-sectional studies... can be performed with less effort and expense,"¹⁴ but warned, "Archival researchers must often deal with the problem of plausible rival explanations for their conclusions because they have no control over the settings in which their data developed."¹⁵

In a classical cross-sectional design, the statistical analysis on the matched patients is presumed to be an estimate of a repeated measures statistical analysis on the same patient through time. Mr. Goad invoked no such sampling strategy, and nor did he conduct any inferential statistics based on time-related variables (e.g., such as the age categories broken down in Table IV-1.¹⁶) Moreover, even if he were to have assumed a simple random sampling was a proxy for a cross-section¹⁷, he conducted no stratified statistical analyses such as would be required in a cross sectional design.

Mr. Goad abdicated or farmed out the research design, data analyses, and evaluation technicalities to "JPA [who] provided technical support and professional data analysis to this project, (p. 1), where JPA refers to the "Juvenile Protective Association".¹⁸ As illustrated repeatedly in his deposition, Mr. Goad did not understand the work conducted by JPA staff or its director¹⁹, undermining his report. For example, he could not provide a definition of a cross-sectional design that he claimed to invoke in his study, as indicated in his deposition:²⁰

19-20 Q What is a cross-sectional case record review?

21-1 A It's a re- -- it's -- I believe that refers to the four categories. And I'm going to tell you that there are very small parts of this report that Richard Thompson was responsible for. It's, like, four, five paragraphs, tops. And that's one of them.

...

22-24 But you got me with the one thing that I don't really know what it means, I have to be honest.

2-4 Q. Mr. Goad, did you have a formal research or evaluation design for the statistical work in your report, Exhibit 2?

5-7 A. I don't know what you mean by a formal research design, especially I'm not sure what you mean by the word "formal."

¹¹ Page 26

¹² Page 174

¹³ Page 106

¹⁴ Page 50

¹⁵ Page 53

¹⁶ Page 16

¹⁷ Page 11

¹⁸ Page 1

¹⁹ Dr. Richard Thompson

²⁰ Page 121-123; Part 2, page 27

Moreover, Plaintiffs' counsel stipulated, during questions of research design, sampling, confidence intervals, inter-rater reliability, tabulation of results, etc., as follows:²¹

21-23 MR. KAPPELL: And I would also note that we're not offering Mr. Goad as an expert in statistics.

24 MR. NANCE: So noted.

As will be demonstrated in this report, it is obvious throughout Mr. Goad's report that he has little or no knowledge about scientific methodology, either in terms of research or evaluation design, or in data analysis; or presumably misunderstood Dr. Richard Thompson, Director of Research²² at JPA.²³ Indeed, in deposition Mr. Goad testified:²⁴

12-17 Q Thank you. Mr. Goad, referring to Exhibit No. 1, your 2009 report, is there any scientific or statistical basis to draw conclusions about all of the children in DHS custody based upon the 43 referrals of the nine named plaintiffs that you did in that report?

18-20 A If I recollect, I included in the report the answer is no. It wasn't intended to be that sort of scientific review.

1-5 Q Why -- what statistical or scientific basis do you have for saying that it is probable that all children are in danger of being placed with abusive, neglectful, and dangerous caregivers?

6-8 A I don't claim that there is a scientific basis for that. I wrote that repeatedly, I believe, in the report.

9-10 Q Or a statistic- -- a valid statistical basis?

11-12 A It's not intended to be a scientific, statistical report.

20 – 21 Q You didn't say anywhere in these findings or opinions "hypothesis," did you?

22 A No.

23-24 Q That's a new word you've injected today for the first time, isn't it?

25, 1-3 A No, but somewhere in the report I say that it is not a scientific report. I didn't intend it as a scientific report. I've testified to that repeatedly in this deposition.

²¹ Part 2, Page 26

²² Mr. Goad stated in his deposition (page 13), Dr. Thompson "conducted tests for confidence intervals," but there is no such thing as a test of a confidence interval. Although there is a test for an inter-rater reliability coefficient (e.g., the determination if Kappa was statistically significantly different from zero for the given sample size), Mr. Goad also claimed Dr. Thompson "conducted tests for... inter-rater reliability," although no such test was described either in Mr. Goad's report or mentioned in his deposition.

²³ Page 13

²⁴ Page 66, 86, 87-88

It was apparent that Mr. Goad did not even have the expertise to put data into a form that could be analyzed, also as indicated in his deposition:

24-25 Q Okay. Could you have constructed the database that Jan Stempel constructed?

1-4 A I suppose I could have learned how to do it, but it would have been -- I have no idea, you know, how to do that. That's not something I could do.²⁵

It is obvious Mr. Goad had no expertise in data entry. His SPSS (PASW)²⁶ input files²⁷ contained entries of alpha character responses for numeric variables (e.g., "yes" instead of "1" and "no" instead of "0"), which would require recoding in order for the software to analyze the variable. Furthermore, Mr. Goad testified he not only could not recognize the form of the final data set used for analysis, he would not even have been able to open the software file had it been presented to him.²⁸

3-7 Q All right. Is there something in your considered materials that we could identify as the final database?

6 A I think so.

7 Q What form would it be in?

8-12 A I don't know. I think that that was something that Richard Thompson forwarded, and that's among the stuff I couldn't open, but I think it was something that was forwarded from him.

13-19 Q Okay. And we can look -- well, we can do it now or we can do it later. I am able to open a certain number of Excel spreadsheets that we -- I guess we could talk about now. But you think that the final database was not an Excel spreadsheet, because certainly you could open that?

20-21 A Yes, I could open an Excel spreadsheet, yes.

22-25 Q I feel very capable when I am able to open a spreadsheet. But you think it was something other than an Excel spreadsheet?

1 A I don't know, I don't know.

Unfortunately, it was not just the SPSS (PASW) software that Mr. Goad was unfamiliar with. He also testified he had no idea how the data, originally obtained in Excel²⁹ format, was inputted

²⁵ Page 117

²⁶ SPSS is the *Statistical Package for the Social Sciences*. SPSS, which stood at version 17, was sold recently, and the subsequent and version 18 was called PASW. Shortly thereafter, however, it was sold again, this time to IBM. The current version is IBM SPSS 19. Evidently, Dr. Thompson and/or "Jan Stempel" created the SPSS data sets for Mr. Goad, and if so, the question of why numeric data were entered as alpha characters, only to be recoded back into numeric data later for analysis, should be directed to them.

²⁷ E.g., Goad 01588.sav

²⁸ Page 165-166

²⁹ Excel is a Microsoft Corporation spreadsheet software program. It has limited statistical capabilities, but is often used for data entry when is then easily ported into SPSS for more sophisticated analysis.

into SPSS (PASW). He testified that he had never even seen them, and could only speculate how they were obtained:³⁰

5-7 Q In your considered materials when we got them in native format, there are a number of spreadsheets, and I need to understand what's on them.

8 A I'll try. I probably never seen these spreadsheets.

10 Q Okay, who put these spreadsheets together?

12 A I would -- it's probably a little more than speculation, but I would assume that they were data that were taken from the database and put onto -- I assume they are Excel spreadsheets, and if that's the case, that would have been Dr. Thompson.

18 Q Okay. Why did you not make the spreadsheets?

20 A Because it was his job to do that. I hired him to do the data analysis, and you know, I think -- I don't know what he did with the spreadsheets. I don't know if the spreadsheets played a part -- my guess is they played a part in his creating tables and things like that, that were used to write the report.

Sample

Mr. Goad did not know how the sample that he analyzed in his report was obtained, as indicated in his deposition testimony:³¹

14 Q All right. How were those samples drawn?

15 A Randomly.

16 Q And how did you do that?

17-25 A I didn't personally do it. A researcher, Ph.D., psychologist who specializes in research did the sample selection so that we -- the people who did the reviews had nothing to do with actually selecting the sample. I'm not entirely sure how he did it, but there are computer programs that will randomly select from the universe. I suspect that's how he did it.

Moreover, Mr. Goad was not able to explain the sampling frame³² used in his study:³³

15-17 Q. What was the sampling frame you used to create the statistics in the report?

17 MR. KAPPELL: Object to form.

18 BY THE WITNESS:

19-20 A. I don't know what you mean by sampling frame.

³⁰ Page 248-249

³¹ Page 109

³² The sampling frame is merely a listing of the accessible population from which the sample was drawn. The accessible population is a subset of the target population, which in turn is a subset of the population (or universe).

³³ Part 2, page 28

Similarly, Mr. Goad had no understanding of how confidence intervals are calculated, as he testified.³⁴

19-21 Q Do you know the particular statistical method that Dr. Thompson used in calculating the confidence intervals that appear on Exhibit 14?

22 A. No. That's why I hired him. That's something that's not within my expertise.

There is insufficient information in Mr. Goad's report and deposition to determine what procedure Dr. Thompson used; the confidence intervals cited throughout the report could not have been obtained by using either of the two standard methods, which are the large sample Z approximation (Wald procedure) or the exact method based on Mr. Goad's disjointed explanation of what was done.

Mr. Goad stated, "Thus, when I have stated my findings in terms of a range,³⁵ I have determined that range to be correct with 95% certainty."³⁶ He claimed "different findings have different confidence intervals because the findings take different subsets into account,"³⁷ when in fact, presuming he fixed the level at 95%, he allowed the precision to float arbitrarily, from a low of $\pm 3.25\%$ ³⁸ to an incredibly un-interpretable³⁹ $\pm 12.3\%$!⁴⁰ This is the first time in my professional career of 28 years that I have ever encountered a report with confidence intervals wherein the precision level was permitted to float from confidence interval to confidence interval. This is flawed methodology that is contrary to the scientific method of stating an a priori objective standard on which study results are to be interpreted.

Forensically, Mr. Goad may have allowed the precision level to float in preference to reducing the confidence level. For example, consider the case when the $\pm 3.25\%$ ⁴¹ precision level was cited for Mr. Goad's OCA universe of OKDHS wards that was estimated at 374 and the sample size was 70. As depicted in Figure 1 below, this actually represents a 45% confidence level, not a 95% confidence level, as calculated using an on-line sample size calculator by Raosoft,⁴² which invokes the symmetric Wald formula. This also applies to all results for CPA

³⁴ Page 16

³⁵ Mr. Goad is misused the term "range." Range is defined as either "maximum – minimum" or "maximum – minimum + 1).

³⁶ Page v.

³⁷ Page v.

³⁸ Page 58

³⁹ If the sample size for a particular analysis in a study is less than required from the sampling plan, either the confidence level must decrease or the width of the precision band must increase, of course with neither option being desirable. Because Mr. Goad's sampling plan was inadequate, he had two choices: Keep the confidence level at 95% but let the precision band widen, or maintain the width of the precision band but let the confidence level decrease. He chose to let the width of the precision increase however large as necessary, according to a formula he could not explain, to maintain the 95% confidence level. Hence, in one case he testified regarding results that can be wrong by a factor of $\pm 12.3\%$, which is a 24.6% spread. This band is so wide no meaningful interpretation can be made. Hence, the Court cannot properly evaluate the meaning of those results.

⁴⁰ Page 56

⁴¹ Page 58

⁴² <http://www.raosoft.com/samplesize.html>

screen outs, investigations, and assessments where he allowed the precision level to arbitrarily float (i.e., increase).

Presumably, Mr. Goad allowed the precision level to float arbitrarily in order to avoid testifying to the Court that that due to the insufficient sample size he could not maintain a 95% confidence level, as he stated in deposition:⁴³

20-23 Q. Did you consider fixing the confidence intervals and letting the 95 percent confidence level increase or decrease depending on the size of the subset?

24 A. No.

The screenshot shows the Raosoft Sample Size Calculator interface. The inputs are: Margin of error: 3.25%, Confidence level: 45%, Population size: 374, Response distribution: 50%. The recommended sample size is 70. Below this, there is a table for alternate scenarios.

Alternate scenarios							
With a sample size of	100	200	300	With a confidence level of	90	95	99
Your margin of error would be	2.56%	1.44%	0.77%	Your sample size would need to be	237	266	303

Figure 1. Illustration of 45% Confidence Level.

Presuming the estimated OKDHS ward universe as determined by Mr. Goad,⁴⁴ I calculated minimum sample sizes (assuming no duplication or correlated records, 100% valid cases, and there are no subgroup analyses to be conducted – in other words, for illustration assuming Mr. Goad's unreasonable estimations are reasonable) using an online calculator used by other Plaintiffs' experts, Drs. Jerry Milner and Jacqueline Smollar.⁴⁵ I used Mr. Goad's most precise level ($\pm 3.25\%$), as well as the precision level used by Drs. Milner and Smollar.⁴⁶ The results are compiled in Table 1. The results indicate that Mr. Goad systematically used a sample too small to maintain an a priori 95% confidence level and either precision interval.

⁴³ Part 2, page 46.

⁴⁴ Table on page 12.

⁴⁵ <http://www.surveysystem.com/sscalc.htm>. This calculator is based on the "Z" formula, and the default provides symmetric intervals.

⁴⁶ "Foster Care Case Review of the Oklahoma Department of Human Services" Dated Feb 17, 2011, authored by Dr. Jerry Milner and Dr. Jacqueline Smollar, Experts for the Plaintiffs, Case 4:08-cv-00074-GKF-FHM, page 13.

Table 1. Sample Sizes Needed For Mr. Goad's Best Precision Interval and Other Expert Plaintiff's Precision Level

					Goad's Best Precision $\pm 3.25\%$	Milner/ Smollar $\pm 5\%$
Goad's Page #	Category	Precision Level (\pm)%	Unduplicated Universe (N) Estimated	Goad's Sample Size	Sample Size Needed	Sample Size Needed
20	CPS	4	645	158	378	241
21	CPS	8.1	645	158	378	241
24	CPS	5.9	645	158	378	241
26	CPS	9.9	645	158	378	241
31	CPS	6.9	645	158	378	241
31	CPS	6.7	645	158	378	241
33	CPS	5.6	645	158	378	241
34	CPS	5.4	645	158	378	241
39	CPS	8.3	645	158	378	241
46	OCA	10.5	374	70	265	190
56	OCA	5.4	374	70	265	190
56	OCA	12.3	374	70	265	190
58	OCA	3.25	374	70	265	190
58	OCA	8.9	374	70	265	190
87	SO	5.9	807	162	428	260
87	SO	4.9	807	162	428	260

The information in Table 1 above can be explained as follows. For the category "CPS Investigations OKDHS wards,"⁴⁷ Mr. Goad estimated a universe of 645 wards. He then claimed to have drawn a sample of 158. However, had Mr. Goad followed standard procedures in accepting an a priori precision level for all confidence intervals, and not allowed that standard to float willy-nilly, he should have drawn a sample of 378 to achieve the most precise interval claimed in his report, which was $\pm 3.25\%$.⁴⁸ His sample of 158 was only 41.7% of the required number required, meaning he was short by 220 wards. Had Mr. Goad adopted the precision level of Drs. Milner and Smollar, which is a far less level of precision at $\pm 5\%$, he would have drawn a random sample of 241. This indicates his sample of 158 was only 65.6% of the required, meaning he was short by 83 wards. The balance of the table is interpreted accordingly, and hence, his work was destined to be unreliable and inaccurate.

In deposition, Mr. Goad admitted he did not draw the sample, but instead he relied on Dr. Thompson:

7-9 Q Did Dr. Thompson determine the number of samples to be drawn in each of these four categories?

⁴⁷ Page 12

⁴⁸ Page 58

10 A Yes.⁴⁹

When asked how Dr. Thompson obtained the sample, Mr. Goad gave his understanding about how sample sizes are determined:

11 Q How did he do that?

12 A Well, he used accepted research practice. Typically in universes the size of these, 10 percent is normally an acceptable sample.⁵⁰

There is no such "accepted research practice," nor is it "typical" to select a 10 percent sample for "universes the size of these," as indicated in Table 1 above, among professionally trained methodologists. Moreover, there is no such rule of thumb for any universe size. Using the same sample size calculator mentioned above, Table 2 contains sample sizes⁵¹ for universe sizes of 6,000 and 9,500, which may be an approximation of the number of children in foster care in OKDHS, with the caveats on using the sample size calculator mentioned above. The entries represent the sample sizes required for Mr. Goad's 10% standard, as well as the 5% (a typical value used in social and behavioral sciences where great precision is less important than time and cost), as well as a 1% precision intervals that may be adopted in a critical medical study (where great precision is more important than time and cost). The entries indicate that the 10% sample size can be far more or far less than what would actually be required for commonly accepted precision intervals.

Table 2. Comparison of Sample Sizes for Different Precision Intervals

Accessible Universe	10%	95% ± 5%	95% ± 1%
6000	600	361	3,693
9500	950	368	4,776

Mr. Goad mischaracterized his samples sizes: "The sample sizes are statistically significant – that is, they are large enough to give reasonable confidence that the findings of the review represent the finding that would result if the entire universe of all investigations and all screened out referrals concerning OKDHS ward that occurred in 2009 had been reviewed."⁵² There is no such thing as a sample size that is statistically significant. Statistical significance pertains to the evaluation of an inferential hypothesis test's obtained value with either an asymptotically obtained or exact critical value.⁵³ This was another indication that Mr. Goad was

⁴⁹ Page 112

⁵⁰ Ibid

⁵¹ <http://www.surveysystem.com/sscalc.htm>. This calculator is based on the "Z" formula, and the default produces symmetric intervals.

⁵² Page V

⁵³ When a statistical calculation is conducted the result is called the obtained statistic. Historically, that value is then compared with a critical value that represents the threshold of what constitutes a rare (or significant) probability. If the obtained statistic is greater than (or less than depending on the type of statistical test) than critical value, the result is statistically significant. With the advent of statistical software the matter is more straightforward. The probably of the obtained statistic is simply compared with the alpha level (i.e., a 95% confidence interval is the same as an alpha level of 0.05). If the obtained probability is less than

not qualified to discuss the results of data analysis as it related to sample sizes or statistical significance. As Mr. Goad concluded in his deposition, it's all done by prestidigitation:⁵⁴

9-10 Q So did Dr. Thompson select from the samples, a smaller sample?

11 A Correct.

12 Q By some statistical method?

13-14 A Some magical way.

Sample vs. Census

It appears the case referrals were based on the family as a unit of analysis, that unit of analysis was further broken down into potentially multiple siblings per family, and the incident rates pertained to either multiple wards (children) per incident or multiple incidents per ward (child). Mr. Goad did not explain why he estimated the unduplicated universe instead of actually determining the universe from the data he was provided by OKDHS.⁵⁵

I question why Mr. Goad preferred a sample over a census. The reason appears to be that arbitrarily creating poorly formed intervals, the result of inadequate sample sizes, permitted him to systematically create wide intervals for shock effect. Because Mr. Goad was provided with the actual universe⁵⁶ by OKDHS he could have simply counted the census and reported it with no interval whatsoever.⁵⁷ There was no reason for him to conduct his study only on a subset, and at that, a subset via a method that he cannot explain.

As mentioned above, Mr. Goad did not know the formula used to create the confidence intervals. Assume they were based on some calculation that resulted in a symmetric interval. The precision level in his report was so poor, due to the inadequate sample size, that the interval width (maximum – minimum) was un-interpretable. For example, consider 219 Office of client Advocacy (OCA) investigations in 2009 pertaining to 374 OKDHS wards. Mr. Goad concluded "at least two and as many as 24 of the 374 OKDHS wards"⁵⁸ that were deemed unsubstantiated by OCA were in his opinion substantiated. There is a difference between 2 and 24; the former means his opinion was in agreement with OCA for only 93.6% of these wards, whereas the latter it means his opinion was in agreement with OCA for 99.5% of these wards.

In the most extreme example, his opinion differed from OKDHS on as few as 289 and as many as 695 children in OKDHS custody, a difference of 406 wards.⁵⁹ However, Mr. Goad admitted in deposition that the confidence interval applies to the entire interval, not just the maximum (cited for shock value), meaning even according to his calculations the probability that the accessible population value was just as likely to be 289 as it was to be 695.⁶⁰

0.05, the result is statistically significant. The obtained probability can be derived by different methods, such as an estimation procedure based on large sample (asymptotic) theory or with modern computers through exact permutation methods.

⁵⁴ Page 155

⁵⁵ Pages 11-12, Goad 01592.xls, Goad 01593.xls

⁵⁶ This is the accessible population, which is a subset of the target population, which in turn is a subset of the population.

⁵⁷ Census results are called parameters; confidence intervals only apply to sample statistics.

⁵⁸ Page IX

⁵⁹ Pages XII, 3

⁶⁰ Page 144

2 Q But no particular point that's more likely than any other point in that range?
4 A No.

Reality check and cross-validation

A very important aspect of a case review is a reality check where records (or interview results, etc.) are verified with independent sources (e.g., caseworkers, case managers, parents). Mr. Goad testified in his deposition that he did not believe the requirements of his study design required any independent verification:⁶¹

9-11 Q So you didn't feel any need to do any reality check of the general population to make a -

12 A I know I'm not the lawyer here, but I object to the vernacular "reality check."

14 Q Are you familiar with the expression "reality check" in this instance?

16 A I am very familiar with "reality check," and it's not a reality check. It would be a comparison of two statistics. That's not what I was retained to do at all.

Similarly, Mr. Goad did not believe his study design required any type of cross-validation.⁶²

Data Collection Instrument and Psychometrics

Instrument construction

Mr. Goad testified in deposition that he was unfamiliar with the basics of instrument construction, including block-booked variables,⁶³ he opined that test factor variables and elaborators were irrelevant to his instrument and only pertained to regression analysis,⁶⁴ he opined that extraneous variables only related to experiments and there were none in potentia in his study, did not know what are component or complex variables. He testified that antecedent variables were "absolutely irrelevant to this report," and was a "silly concept."⁶⁵ Nevertheless, he immediately recanted,⁶⁶

5-6 Q. Well, it's the same silly concept you used in the child death review, wasn't it?

7 A. That's a different sort of review.

Similarly, he testified suppressor variable only pertained to "experiments where there are control groups and test groups, not to an evaluation."⁶⁷ He admitted he did not know what distorter variables, co-variants, conjoint variables, or how to stratify.⁶⁸

Psychometrics

⁶¹ Page 215

⁶² Deposition, Page 33

⁶³ Page 34

⁶⁴ Page 35

⁶⁵ Page 36-38

⁶⁶ Page 38

⁶⁷ Page 41-43

⁶⁸ Ibid

Mr. Goad's report referred to the reliability of the instrument he used for data collection. However, he did not compute the reliability, and admitted in deposition that he had no idea how to do so:⁶⁹

12-13 Q Okay. In this case, could you have done the Kappa scores that Dr. Thompson did?

14-17 A No. Honestly, I don't find that stuff daunting. I don't know how to do it. I don't have any doubt that it would be fairly easy to figure out how to do, but no, I could not.

Page 157

3-5 Q Okay. Do you know if in your considered materials there are anything that would be Dr. Thompson's calculations of the Kappa scores?

6 A I don't know.

Mr. Goad described his inter-rater reliability process to be based on three coders: himself, Ms. Adel Prass⁷⁰ and Ms. Kathy Glenney. He did not state in his report the extent to which they were masked to the purpose of their coding, as is required in a legitimate inter-rater reliability study to avoid bias (e.g., stringency).⁷¹ Hence, the Court cannot make any determination on the reliability as far as they were concerned. However, Mr. Goad not only was familiar with the complaint, he had conducted a prior review in November, 2009, of the nine named Plaintiffs.⁷² Thus, he should have recused himself as a member of the three person team who conducted the coding.

Misuse of Vignettes, Predisposition on Child Welfare, Inconsistency in reporting precision levels, Post Facto Explanations, and Unsubstantiated Opinions

Vignettes

Mr. Goad's use of vignettes interspersed throughout the report is inconsistent with an objective discovery of OKDHS's foster care system. Vignettes are used in single case quantitative research designs when an in depth content review of a case study of an already known or presumed outcome (e. g., failure)⁷³ is desired, or in small sample qualitative research designs for the same reason. In neither case is generalizability permitted, because the case(s) is not obtained by random sampling; the in depth review is chosen to give insight into or to illustrate an a priori point of view,^{74,75} which is consistent with Mr. Goad's purpose:

16-17 Q Okay. What's the purpose of the case vignette?

18-24 A To try and put flesh on the bones. I think that it was kind of a "researchy" kind of report, frankly, and I think when I was being obstreperous a

⁶⁹ Page 156

⁷⁰ Page 13

⁷¹ In Mr. Goad's deposition (Vol. I, 153:25 – 154:18) he stated she was made aware of who Mr. Goad's client was, about Children's Rights involvement, and about the lawsuit, although he didn't believe he showed her the "pleadings" or the 2009 report.

⁷² Page 2

⁷³ Or success; see e. g., Fitzpatrick, Sanders, & Worthen, (2011), p. 390.

⁷⁴ Page 239

⁷⁵ Similarly, with regard to summaries on Page 347.

little bit earlier, I said I see children behind these numbers, and I think it is important that that be something that pervades the report to whatever extent is possible.

Page 247

1-2 Q Okay. Well, what criteria did you use to put a summary in your report?

3 A A summary, a vignette?

4 Q Yes.

5-6 A Just one that I thought was illustrative of the issue that was being discussed.

7-8 Q Are there any of those summary vignettes that are favorable to DHS?

9 A Well, no, because those weren't findings.

10-11 Q So you didn't make any favorable findings to DHS?

12 A No, I didn't.

Mr. Goad attempted to juxtapose the vignettes and summaries in the context of random sampling as putative to the accessible population. It is important to stress he did not select cases to be showcased in a vignette via random sampling, meaning, his vignettes were cherry-picked, and hence, it was no wonder that none were illustrative of success cases handled by OKDHS.

Predisposition on child welfare

Mr. Goad described himself as being well qualified in public child protective services with 40 years of experience⁷⁶ in a field that he describes as being "a comparatively new profession"⁷⁷ that only began in the 20th century. Based on a report of the United States General Accounting Office in 2003 and a report of the Child Welfare League of America in 2002, Mr. Goad presented a very critical view of his profession: "It is well documented that the national child welfare work force is neither well experienced nor well trained. It is estimated that, nationally, the annual turnover rate for child welfare workers is between 30% and 40%,"⁷⁸ and "child welfare agencies regularly establish low educational and experiential requirements for hire."⁷⁹ This one-sided summary and denigration of his profession reveals a bias with which he approached his study of OKDHS.

Inconsistency in reporting precision levels

Mr. Goad opined a 91.1% rate of reasonable time in response to making contact is not a positive finding for CPS investigations. The precision rate for this analysis was the second lowest reported in his study, at $\pm 4\%$. Mr. Goad, who cited confidence intervals nearly throughout his report for shock affect, failed to be consistent in reporting them here, which would have yielded an upper boundary of a more tempered 94.7%. Moreover, using the widest precision level ($\pm 12.3\%$) he invoked in his study, the upper boundary would have been $91.1 + 12.3\% = 91.1 + 11.2 = 102.3\%$ timely compliance.

⁷⁶ Page 1

⁷⁷ Page 4

⁷⁸ Page 5

⁷⁹ Ibid

Unsubstantiated opinions were substituted for statistical tests throughout Mr. Goad's report

It was not my charge to conduct Mr. Goad's study, and hence, I am not taking every opportunity to demonstrate how his ex post facto opinions would have been reversed on many key assertions had he had the expertise to conduct a scientifically valid statistical analysis and relied on those results in forming his opinions. However, here are just a few examples:

1. Mr. Goad stated OCA standards require initiation of investigation within 72 hours (3 days). This section was titled, "*Delayed* Initiation of Investigations" (italics added for emphasis) and contained a vignette of an extreme case. However, Mr. Goad did not conduct any inferential test to determine if programmatically OKDHS was in compliance with the OCA standard. Based on his Table 3,⁸⁰ a simple sign test⁸¹ could have been conducted on the number of "successes" (investigations initiated within three days). The null and alternative hypotheses are:

$$H_0: \theta = 3 \text{ days}$$

$$H_a: \theta \neq 3 \text{ days}$$

where θ is the measure of central tendency. With nominal $\alpha = 0.05$ and a two-sided hypothesis (meaning the actual result could be less than or greater than 3 days), the result is not statistically significant ($p = .11$). Hence, based on the sample data in Table 3, there is no statistical evidence inferable to the accessible population that OKDHS was not in compliance with OCA standards.

2. Mr. Goad stated his concern regarding investigative decisions that he concluded were "all the more troubling because the children...tended to be young, and therefore especially vulnerable."⁸² This statement is not supported by his data. The ages of the children that were inappropriately unsubstantiated/ruled out via CPS investigations according to Mr. Goad's opinion, were compiled in his Figure IV-13⁸³, and the ages of alleged victims in CPS investigations were previously given in his table IV-1.⁸⁴ This represents a 2×6 doubly ordered contingency table. Using StatXact⁸⁵ (4.01), the Jonckheere-Terpstra test was not statistically significant ($p = .34$), indicating the differences stressed by Mr. Goad were merely chance fluctuations.

3. Mr. Goad opined that OKDHS is in violation of COA standards in having "gaps during which no investigative activity took place."⁸⁶ Based on his Table IV-1⁸⁷, a sign test was

⁸⁰ Page 16

⁸¹ This test only requires three pieces of information to compute: (1) number of successes, (2) total trials, and (3) nominal alpha. An on-line calculator, one of many, can be found at <http://www.graphpad.com/quickcalcs/binomial1.cfm>. The sign test is appropriate because Mr. Goad did not state cite a programmatic tolerance associated with the COA standard.

⁸² Page 36

⁸³ Ibid

⁸⁴ Page 16.

⁸⁵ This is a statistical software program used by professional statisticians that permits conducting of asymptotic (classical textbook techniques which are based on large sample theory assumptions), Monte Carlo (which are generally more precise approximations), and exact statistics (which are correct, but potentially very time consuming to calculate) for frequency or count data found in contingency tables. Note that there is an add-in module called Exact Stats for SPSS.

⁸⁶ Page 21

conducted on the number "successes" (gaps less than 30 days). The null and alternative hypotheses are:

$$\begin{aligned}H_0: \theta &= 30 \text{ days} \\H_a: \theta &< 30 \text{ days}\end{aligned}$$

The null hypothesis was rejected in favor of the alternative hypothesis that the gaps were less than 30 days programmatically. The result was statistically significant ($p < .0001$). This means based on Mr. Goad's sample, and contrary to his conclusion, it can be inferred the OKDHS is successful programmatically in meeting this standard.

4. A similar analysis should have been conducted by Mr. Goad in describing the duration of investigations,⁸⁸ which he characterized that "OKDHS takes too long" in completing its CPS investigations, with the standard being 30 days. The null (H_0) and alternative (H_a) hypotheses are stated as:

$$\begin{aligned}H_0: \theta &= 30 \text{ days} \\H_a: \theta &> 30 \text{ days}\end{aligned}$$

Based on the data from his sample compiled in his Figure IV-2, the one-sided (i.e., directional) sign test result is $p = .25$, which is not statistically significant. This means based on Mr. Goad's sample, there is no evidence in the accessible population that the duration of CPS investigations is statistically significantly longer than 30 days.

5. Mr. Goad and his associates opined a difference between OKDHS CPS investigative findings. The relevant data for OKDHS and what Mr. Goad claimed were the "Correct Findings"⁸⁹ were compiled in his Figure IV-9 and IV-10, respectively.⁹⁰ However, a 2×3 Chi-squared test based on the percentages in his two figures was not statistically significant (asymptotic p with Yates correction = .16; exact $p = 1.0$). This means the differences in findings of unsubstantiated/ruled out CPS investigations (child level) based on his and his reviewers opinions were not statistically significantly different than the OKDHS findings.

Post Facto Interpretations

As illustrated above in the section titled, "Unsubstantiated opinions are substituted for statistical tests throughout Mr. Goad's report", I cited examples of the perils of relying on eye-balling the data to draw conclusions, instead of relying on statistically valid approaches to drawing conclusions. Rosenberg (1968) explained:

Why does post-factum interpretation have low evidential value compared with hypothesis testing? There are three distinctive **disadvantages** of post-factum interpretation: *they are flexible, not nullifiable, and not dependent on external confirmation.* (p. 233, bold added for emphasis).

Rosenberg explained that post-factum interpretations have "*excessive flexibility... one is free to change one's interpretation at will,*" (p. 233). *Not nullifiable* means "there is no way to

⁸⁷ Ibid

⁸⁸ Page 22, Figure IV-2

⁸⁹ Figure IV-10, page 34

⁹⁰ Page 33-34

prove" an "interpretation is wrong," (p. 233). "*Not dependent on external confirmation*" means "One cannot refer back to the data for confirmation; the strength of the interpretation resides solely in the logical system in which it is embedded. In hypothesis testing, on the other hand, the data come after the hypothesis has been formulated and thus represent external confirmation," (p. 233).

In other words, post-factum interpretation easily leads to subjective support for a conclusion the researcher(s) wished to support prior to conducting the survey, as Cliff (1983) warned that one of the basic principles that "underlie the scientific method" is "post hoc does not imply prompter hoc,"⁹¹ and "ex post facto explanations are untrustworthy."⁹² Thus, Mr. Goad felt free to "change his opinion at will,"⁹³ as indicated in one place where he described his results as "all the more troubling" because the children were young, whereas elsewhere he recapitulated to say "one should not assume [older] children are necessarily less vulnerable than younger children."⁹⁴ Similarly, from his deposition⁹⁵:

21-2 Q 21 All right, sir. And a related question: Is there any scientific or statistical basis to conclude that the nine named plaintiffs that are the subject of that report are representative of the entire population of children in DHS custody in terms of their experience of maltreatment and care?

3-4 A No. That's why I use the word "suggests" in the report.

4-7 Q Mr. Goad, can you point me to any scientific or statistical procedure that is established in any field for finding the existence of a suggestion?

8 A As I mentioned, there is a whole form of research that's exploratory research which is not intended to draw conclusions, but to identify hypotheses.⁹⁶

And similarly:⁹⁷

3-6 Q What was the scientific or statistical basis for you finding or opining that there was a pattern of practice affecting all children in care, based on your review?

7-9 A I didn't opine that. I opined that it suggested that. I didn't say that they all were. I said it suggested, and that's different.

5. Mr. Goad's selective use of the median is, in my opinion, suspicious. In describing the duration of OCA investigations,⁹⁸ he found the average to be 34 days, but stated in italics for shock value that the median was 55 days. His report was not written consistently with the mean followed by the median in parenthesis, which is commonly done in research reports and program evaluations; he found a median that happened to be greater than the mean and he

⁹¹ Page 117

⁹² Ibid

⁹³ Page 36

⁹⁴ Page 43

⁹⁵ Page 66-67, bracketed material added for clarity; similar exchanges of Q & A through page 72.

⁹⁶ Page 72

⁹⁷ Page 69

⁹⁸ Page 48

cherry-picked it for recitation in his report. In fact, when he was asked in deposition why he failed to use a robust measure of central tendency for other parts of his study, he testified he didn't see the need to do so, nor did he have any idea what would have been gained by doing so.⁹⁹

1-4 Did you take any robust measure of central tendencies on how long the investigations took to complete?

5 MR. KAPPELL: Object to the form.

6 BY THE WITNESS:

7 A. No.

8 BY MR. NANCE:

9 Q. Why is that?

10-14 A. Because we didn't see the need to.

11 Q. How would the results have been different if you did?

13 A. I don't know.

In general, the median is more robust than the mean, and hence, it is frequently cited in scientific reports and evaluations. However, there are small sample problems with the median for a highly centralized distribution. Consider, for example, the array {1, 2, X, 99, and 100}. The median, by definition, will be X, regardless of its value, be it 3, 4, ..., 97, 98. That is why the median should have been stated systematically in Mr. Goad's report, not cherry-picked for shock value.

6. Mr. Goad claimed the percentage of referrals screened out "strongly suggests that OKDHS has withdrawn the protection of CPS investigations from many children."¹⁰⁰ Again, he came to this conclusion by eye-balling data. A 2×4 repeated measures test of the percentages of referrals screened out from 2006 – 2009 comparing OKDHS with the national percentages he presented, however, was not statistically significant according to the Friedman test ($p = .79$). This means there is no statistically significantly different trend in percentages in screen outs between OKDHS and the national statistics cited by Mr. Goad for that four year period.

In conclusion, on the basis of the flawed methodology outlined above and subjective interpretation that is contrary to conclusions that would be drawn based on accepted research design and statistical principles, I urge the Court to ignore the report submitted by Mr. Goad as being helpful in any way in understanding foster care in the Oklahoma Department of Human Services.

References

Charles, C. M. (1995). *Introduction to educational research*, 2nd ed. White Plains, NY: Longman.

Cliff, N. (1983). Some cautions concerning the application of causal modeling methods. *Multivariate behavioral research*, 18, 115-126.

Fitzpatrick, J. L., Sanders, J. R., & Worthen, B. R. (2011). *Program Evaluation*, 4th ed., Boston: Pearson.

⁹⁹ Part 2, page 49

¹⁰⁰ Page 82

- Krathwohl, D. R. (1993). *Methods of educational and social science research: An integrated approach*. NY: Longman.
- Mason, E. J., & Bramble, W. J. (1997). *Research in education and the behavioral sciences: Concepts and methods*. NY: McGraw-Hill.
- Neuman, W. L. (1991). *Social research methods*. Boston: Allyn & Bacon.
- Provus, M.M. (1971). *Discrepancy evaluation*. Berkeley: CA: McCutchan.
- Rosenberg, M. (1968). *The logic of survey analysis*. NY: Random House.
- Sax, G. (1979). *Foundations of educational research*. Englewood Cliffs, NJ: Prentice-Hall.
- Wiersman, W. (1995). *Research methods in education: An introduction*. 6th ed. Boston: Allyn & Bacon.

2. A Review of the Oklahoma Department of Human Services' Child Welfare Practices from a Management Perspective by Viola P. Miller, Ed. D., Dated March 15, 2011

I have read Dr. Miller's report and her deposition in this case. Dr. Miller admitted she is not a methodology expert capable of carrying out a program evaluation.¹⁰¹ Hence, the Court should not rely on any statements in her report that are evaluative of the OKDHS from a programmatic perspective. For example, from her deposition:

Page 44:

10-11: Q Have you ever been asked to evaluate another state welfare system?

12. A No.

13. Q Okay. Did you utilize any evaluation tools?

14. Mr. Kapell: Object to form.

15. A. Tools? No.

16-17. Q Okay. Do you know what I mean by an evaluation tool?

18. A I think so.

Her lack of expertise in evaluation includes quantitative methods of analysis:¹⁰²

5-7 Q I'm going to ask you if you know if there is, through your technique and through your methodology, if there is a known error rate?

8 A No.

8 Q Okay, You don't know or there is no known error rate?

10 A I don't know.

Page 200

21-24 Q Is there a scientific -- oh, is there a statistical basis to conclude that the management practices and findings you have in your report have harmed children that are in DHS custody?

25 A I don't know how to answer that.

Page 201

1-2 Q Do you not understand what a statistical basis is?

4 A I don't -- I'm sorry. I don't know how to answer your question.

When asked about technicalities of research design and statistical analysis¹⁰³, Dr. Miller was not responsive. She changed the question as to whether children who are abused and neglected would be placed in a control group to be compared with an experimental group that received some treatment for their condition. (Obviously they would not be denied a known treatment modality.) Dr. Miller was not aware that all scientifically valid research designs (e.g., true experimental designs), and lesser designs (e.g., quasi-experimental designs), are used in social work research in general, and foster care research in particular. A Google Scholar search

¹⁰¹ I am not qualified to judge her credentials as they may relate either to a management policy evaluator or as a personnel/personal performance evaluator.

¹⁰² Page 198

¹⁰³ Page 201:6-17

conducted at the time of the writing of this report on the search terms "foster care" and "experimental design" yielded over 1,000 hits; "social work" and "experimental design" over 8,000 hits; "foster care" and "quasi-experimental design" over 500 hits; and "social work" and "quasi-experimental design" over 2,000 hits.

The Joint Committee of the American Evaluation Association¹⁰⁴ has standards on who is qualified to conduct a program evaluation. Standard U1 states, "Evaluations should be conducted by qualified people who establish and maintain credibility in the evaluation context," which she has not. Her expertise should have led to a discernable scientifically designed program evaluation in her report, as indicated in Standard A6, "Evaluations should employ technically adequate designs and analyses that are appropriate for the evaluation purposes," but it does not. Standard A8 indicates "Evaluation communications should have adequate scope and guard against misconceptions, biases, distortions, and errors," but her report is replete with hyperbole based on no actual investigative effort of the children in foster care in Oklahoma or visits/inspections of OKDHS at all critical junctions when carrying out its duties.

Classifying Dr. Miller's Evaluation Design

Dr. Miller did not identify, nor did she follow, any recognized model of quantitative or qualitative program evaluation in her report.¹⁰⁵ Whenever this question was raised during deposition she was unable to respond or was unresponsive. For example:¹⁰⁶

6: Q Okay. Can you cite and point me to the page in your report where you have listed this as your methodology?

9: This -- it's my head.

13-14: Okay. Is there a description of that anywhere in your report?

15. I don't think so.

Dr. Miller did not employ a quantitative goals-based evaluation

Her report lacked key elements of a quantitative goals-based program evaluation (i.e., from the perspective of OKDHS). She did not determine: the origins of OKDHS's programmatic goals, delineation of goals and recognized milestones, the process by which those goals were adopted, the changes in those goals that have occurred over time, the extent to which goals have been met in the past, the progress toward meeting the current goal statements, the efficacy of allocation of finite resources in meeting current goal statements, etc.

Dr. Miller did not employ a quantitative outcomes-based evaluation

Dr. Miller did not identify foster care outcome variables, did not conduct an evaluation to determine the extent to which those outcomes have been achieved by specifying a

¹⁰⁴ <http://www.eval.org/evaluationdocuments/progeval.html>

¹⁰⁵ Program oriented approaches include Tyler (1942, 1950; establish/ classify goals, define behavioral objectives, determine observable programmatic elements, data capture, performance assessment), Provus (1971; define, implement, process, product, cost-benefit), logic model (input, activities, output, programmatic outcome); decision oriented approaches include Stufflebeam (1968, 1971; CIPP) and Patton (1980, utilization); participant-oriented include Stake (anti-quantitative descriptive-judgment paradigm based on local response, Guba & Lincoln (1985; naturalistic, qualitative), and Patton (1986; qualitative), stakeholder; and consumer-oriented approaches include Scriven (1967).

¹⁰⁶ Page 47

methodology to collect information, did not describe how data would be collected, and did not explain how the data would be evaluated using recognized quantitative statistical methods.

For example, she did not select a random sample of current or former children in order to interview them about their desired and actual outcomes. She did not select a random sample of current or former children's biological parents and interview them. She did not select a random sample of current or former children's current or former caregivers and interview them. She did not select a random sample of caseworkers ("field workers") and interview them. She did not select a random sample of case managers and interview them. She did not select a random sample of students' teachers, community contacts (e.g., clergy, neighbors, etc) and interview them. She did not select a random sample of child case (archival) records and review them. She did not select a random sample of caseworker field notes and review them. She did not collect data and determine children's educational, health, and related outcomes from 2001 (her earliest document) to the present. She did not chart the process of a cohort of children through the OKDHS experience. She did not conduct a longitudinal study of the impact of OKDHS on the children's future education, health, and quality of life. Moreover, Dr. Miller did not identify other stakeholders' desired outcomes (e.g., foster children's families, their schools, their communities, their potential employers). As noted in her deposition:¹⁰⁷

23. Q ... did you ever speak to any caseworkers at DHS?

Page 39

1. A No.

2. Q Did you ever speak to any supervisors at DHS?

3. A No.

4-5. Q Did you ever speak to any field liaisons at DHS?

6. A No.

7-9. Q Did you ever consider speaking to any of those individuals in formulating your opinions about this report?

10. A No.

3. Importance of needs analysis in any program evaluation

- In any program evaluation one of the first and primary tasks is to conduct a comprehensive needs analysis. Dr. Miller failed to conduct a needs analysis, as indicated in her report "DHS needs to do a comprehensive needs assessment (*italics added for emphasis*)",¹⁰⁸ and in her deposition she testified, "I didn't do a needs assessment."¹⁰⁹ Thus, Dr. Miller cannot appropriately address the extent to which the OKDHS has met its goals in the context of a goals-based evaluation. Similarly, she cannot address the extent to which the children (and other stakeholders) in foster care have met their personal objectives in an outcomes-based evaluation.

¹⁰⁷ Page 38

¹⁰⁸ Report page 70

¹⁰⁹ Page 184:11

4. Dr. Miller's report does contain some basic elements of (a) a quantitative process meta-evaluation mixed with (a) some basic elements of a qualitative program evaluation via (secondary) re-analysis of interviews conducted by others.¹¹⁰

With regard to (a) process evaluation, Dr. Miller's report was a naïve documentary analysis relying heavily on her review of documents created by other Plaintiffs' experts¹¹¹, without conducting any independent assessment on the reliability of their data or the validity of their survey designs. Similarly, initially in her deposition she claimed to have conducted an independent review,¹¹² but then she recanted:¹¹³

14-15 A I was asked by plaintiffs in this case to undertake an independent review.

21-22 Q When you -- when you say independent review, what does that mean?

23 A It means I did it.

24 Q By yourself?

25 A By myself.

1 Q How do you know the data lacks integrity?

2-3. Well, Mary Grissom's report, the information from the expert, Mr. Zoran, Dr. Zoran I think it is.

4-5. Q Okay, so you reviewed Dr. Zoran Obradovic's report?

6. A Yes.

7-8. Q And that lead you to believe the data lacks integrity?

9. A Right.

10-11. A Okay. Did you do anything to validate the findings in his report?

12. A No

13-14. Did you do anything to validate the reliability in his report?

15. A No.

16-17 Q Okay. Did you replicate the findings in his report?

18. Q No.

Page 68

¹¹⁰ Her report was proffered as a management review. However, the reason it is necessary to categorize her report in terms of program evaluation, in my opinion, is because her report phased in and out with regard to making program evaluation recommendations, instead of being restricted to management or quality assurance.

¹¹¹ "It is based on ... the February 17, 2011 Foster Care Case Review of the Oklahoma Department of Human Services by Dr. Jerry Milner (Dr. Milner's Case Record Review), and Plaintiffs' other expert reports that have been completed for this lawsuit," p. 1; "Plaintiffs' other expert reports completed for the purposes of this case, including Dr. Milner's Case Record Review; Mr. John Goad's Review of the Response by DHS to the Suspected Child Abuse and Neglect of Children in its Care (Mr. Goad's Review), and Dr. Zoran Obradovic's Report on the KIDS System Review and Analysis (Dr. Obradovic's Report)," page 6.

¹¹² Page 53

¹¹³ Page 67

3-4 Q. Is there any other way that you determined the data lack integrity other than those two?

5. A No.

Page 87

12-14 Q In John Goad's report, did you independently evaluate the validity of his data sampling?

15 A No.

16-17. Q Okay. Did you independently review the reliability of his survey design?

18. A No.

19-20. Q Okay. Did you attempt to replicate his findings in any way?

21. A No.

Remarkably, she admitted she would not modify her conclusions in her report regardless of the integrity of Plaintiffs' experts' work that she relied on:¹¹⁴

8-10. Q Okay. If John Goad's report and findings are determined to be invalid and unreliable, would your opinion change?

11. A No.

12-14. Q Okay. If Dr. Milner's report is determined to be unreliable and not valid, would your opinions change?

15. No.

It would be unacceptable to a credentialed program evaluator to insist on an opinion that was subsequently shown to be based on unreliable data and invalid results. It is the hallmark of advocacy, not scientific methodology. This is yet another example of the flaw in post factum interpretation indicated by Rosenberg (1968): no contrary data presented will be permitted to nullify one's conclusion.

Dr. Miller correctly denigrated critical aspects of other Plaintiffs' experts' reports (i.e., Dr. Milner and Smollar, and Mr. Goad). First, she extolled the virtues of cohort studies over time¹¹⁵ in reference to the methodology used by Fred Wolczyn¹¹⁶. Second, she admitted that Wolczyn's methodology "certainly influenced" her "thinking" in formulating her report¹¹⁷. Then, she complained that "so much of the data that we use in child welfare is point in time"¹¹⁸ (7-8) data. Fourth, she explained why she preferred Wolczyn's cohort time-series evaluation designs: "I believe this methodology because it does provide so much more depth of information to public child welfare systems than we've be able to access in the past."¹¹⁹ Dr. Miller apparently forgot or did not know both the reports submitted by Drs. Milner and Smollar, and Mr. Goad, were based on a single point-in-time case records review. Nevertheless, she characterized Dr. Miller and Smollar's report as "really good work"¹²⁰.

¹¹⁴ Page 88

¹¹⁵ Page 46

¹¹⁶ Page 45:13

¹¹⁷ Page 45:18-19

¹¹⁸ Page 46:7-8

¹¹⁹ Page 46:21-24

¹²⁰ Page 101: 11

Dr. Miller did not recognize, differentiate, or weight primary vs. secondary documents; she did not independently verify factors related to internal criticism/validity (are the documents genuine, reliable, valid?); she did not independently verify factors related to external criticism/validity (are the contents of the document consistent with all other relevant information sources?). These are essential steps in a documentary analysis.

With regard to (b) qualitative evaluation, Dr. Miller did not identify or follow any recognized design. Although she did not conduct a focus group as part of her methodology, in her discussion of focus groups conducted by others she did not display knowledge of this methodology's known weaknesses. For example, Dr. Miller cited evidence from focus groups indicating concern of front-line workers who have a "dizzying array of sources, including email, the DHS intranet, meetings, county directors, and field liaisons."¹²¹ Thus, Dr. Miller was forced to view multiple avenues of communications as a flaw, and actually advocated fewer lines of communication! She was painted into this corner simply because she did not recognize that focus groups often degenerate into groupthink complaint sessions. Similarly, in her deposition:¹²²

24-25 Q Okay. So is it usually a place where workers feel comfortable to vent?

20-22 Q ...Is it--is it uncommon for employees in a large organization to complain about communication problems?

25 A. I don't know whether the unusual -- I don't

Page 122

1 A (cont') know how to respond. I'm sorry. I just don't know.

Rubin and Rubin (1995) called this phenomenon letting "people spark off one another."¹²³ Sussman (1991) cautioned the focus group process easily leads to extremes, and Fern (1982) warned that relying on focus groups means the researcher or evaluator is willing to give up precision in exchange for saving time and money.

Furthermore, Dr. Miller was either not aware of or chose to not temper the finding of focus groups with an understanding that they are deliberately not randomly selected. As a result, another major weakness of focus groups is the results they produce are not generalizable¹²⁴, in this case meaning to all front-line workers.

Specific Methodological Issues in Dr. Miller's Report

Dr. Miller alleged that the OKDHS organizational structure leads to specific child failures.¹²⁵ However, she came to this conclusion without conducting any statistical risk analyses, likelihood functions, odds-ratios, hazard functions, etc., or any other scientific methodology designed to assert and assess risk or causality.

Dr. Miller asserted causality without any methodology to support it. She stated OKDHS is "plagued by a fragmented and disjointed organizational structure" which precludes their ability to "enforce high-quality casework"¹²⁶, but nowhere in her report did she collect data and statistically link the organizational structure to the quality of casework. Similarly, she asserted

¹²¹ Page 14

¹²² Page 120

¹²³ Page 140

¹²⁴ E. g., Sims (2001) and Vicsek (2010).

¹²⁵ Page 1.

¹²⁶ Page 1

that "field workers cannot effectively serve the children in their care,"¹²⁷ but provided no research design or data collection to evaluate the effectiveness of field workers in serving children in their care.

Dr. Miller complained that "recent reorganization of the child welfare policy division, create[d] confusion and inconsistency across the agency."¹²⁸ Inexplicably, the first recommendation of her report is to advocate for yet another round of reorganization!¹²⁹ Similarly, she implied Defendant began implementing changes she advocates based on "questions raised by Plaintiffs in this lawsuit,"¹³⁰ and yet complained that the implementation of those changes created new and additional concerns.¹³¹

Dr. Miller asserted "The lack of leadership and accountability that pervade DHS's child welfare programs prevent the agency from improving outcomes for children and families. There is no clear vision of the agency's child welfare priorities and not enough focus on high-quality casework."¹³² However, she provided no research methodology and data collection to explain or predict OKDHS leadership and accountability as independent variables with children or family outcomes as dependent variables.

Dr. Miller asserted, "Moreover, DHS's internal quality assurance system is inadequate and is not effectively being used to improve practice."¹³³ However, she provided no research methodology or data collection to document the efficacy of previous practices as compared with the efficacy of recent practices.

Dr. Miller asserted, "These serious, agency-wide deficiencies are resulting in severe and ongoing harm and risk of harm to the children who rely on DHS for their basic safety and care."¹³⁴ Dr. Miller did not present any methodology or data collection to determine the relationship between purported agency-wide deficiencies and severe/ongoing harm, nor did she conduct any statistical risk analyses.

Dr. Miller asserted, " "Tragically, the result of this vast mismanagement means that the approximately 8,500 foster children currently in DHS custody are harmed or placed at serious risk of harm on a daily basis as DHS fails to meet their safety, permanency, and well-being needs."¹³⁵ Yet, she neither presented a methodology to collect data on a random sample, nor did she take a census of approximately 8,500 foster care children that were in DHS custody during the time she completed her report regarding their alleged harm, nor did she conduct any statistical analyses related to risk of harm. Similarly, she purported to conclude from seven reports, "These reports reveal an agency that has been placing, and continues to place, children at risk of harm every day,"¹³⁶ even though she cited no statistical risk analyses contained in those reports. Moreover, she did not independently verify the research methodology or analyses invoked by the authors of those reports, as indicated in her deposition:¹³⁷

¹²⁷ Ibid

¹²⁸ Page 1

¹²⁹ Page 74

¹³⁰ Page 39

¹³¹ Page 39-40

¹³² Page 2

¹³³ Page 2

¹³⁴ Page 3

¹³⁵ Page 4

¹³⁶ Page 8

¹³⁷ Page 103

11-12 Q Did you do an independent review and try to replicate the results of the Hornby Zeller audit?

13. A No.

Dr. Miller confused the use of random sampling of case reviews for programmatic evaluation, with social work¹³⁸ case management practices: "The first problem with this process is the small number of cases reviewed and the random way in which those cases are selected. The agency would be better served if its leaders focused on problematic areas or counties, or specific types of problematic cases, and reviewed all of those cases. This type of approach would be much more likely to reveal systemic challenges."¹³⁹ This is actually case management (i.e., when case workers discuss difficult cases with a case manager). In a case records review a random sample is essential in order to generalize to the accessible population. In a case management review, all problematic case should be reviewed.

Dr. Miller denigrated a statewide score summary for an entire calendar year (2009), where "high scores were achieved on placement with siblings (96%) and preserving family connections (83%)...This is inconsistent with Dr. Milner's report, which found that 13% of the children were not placed with their siblings without adequate justifications."¹⁴⁰ She did not take into consideration that placements with siblings from the CQI process pertained to an entire calendar year, whereas Dr. Milner's report was based on evidence taken from a case records review for a single point in time.

Dr. Miller relied on the report of Dr. Obradovic: "Unfortunately, it appears that much of the data provided to DHS staff is totally unreliable. According to Dr. Zoran Obradovic, an expert retained by Plaintiffs to review DHS's computer data system, the lack of change control and quality control over the KIDS System creates a high risk that many – if not all – of DHS's child welfare reports contain inaccurate, unreliable, or out-of-date information."¹⁴¹ However, as mentioned above she did not do anything to validate his findings.¹⁴² Dr. Miller did not supply any evidence that she has the expertise in her *c. v.* to judge the content, quality, and conclusions of Dr. Obradovic's report.

Regarding OKDHS's process for worker assignment, Dr. Miller asserted, "This model has a negative impact ... on the children for whom DHS is responsible,"¹⁴³ but did not present any research methodology, collect any data, or conduct any statistical analyses to support this assertion.

Dr. Miller stated, "The nationally accepted caseload standards promulgated by the Child Welfare League of America (CWLA), the country's oldest child advocacy organization, comprised of public child welfare administrators and workers throughout the country, set a maximum of 12 to 15 individual foster children per worker. It is important to note that any time a case beyond these accepted standards is added to a worker's caseload, it has a significant impact on the caseworker's capacity to perform high-quality casework. The difference, for example, between managing 15 and 18 cases is far greater than the number "three" suggests."¹⁴⁴ Dr. Miller's opinion that the difference between 15 and 18 cases is far greater than what a difference in

¹³⁸ Or psychology or counseling

¹³⁹ Page 27

¹⁴⁰ Page 30

¹⁴¹ Page 32

¹⁴² Page 67

¹⁴³ Page 37

¹⁴⁴ Ibid

three suggests (18 - 15 = 3); yet the CWLA standard she cited set the maximum as 12 to 15 cases. Apparently, CWLA did not recognize Dr. Miller's opinion on the importance of the difference in three (15 - 12 = 3) to mean anything more than an additional three.

Dr. Miller asserted, "Until DHS management places more emphasis on reducing placement disruptions, children will continue to be harmed."¹⁴⁵ However, she invoked no methodology, collected no data, and conducted no statistical data analysis to leave as tenable the hypothesis that harm has been caused to the foster care children in OKDHS based on management practices.

Because Dr. Miller is not credentialed as a program evaluator, the methodology she used is flawed, and the conclusions she drew were unsupported, I urge the Court not to rely on any opinions contained in what she purports to be a management review as being reflective of a program evaluation of the OKDHS and its foster care system.

References

Fern, E. F. (1982). The use of focus groups for idea generation: The effect of group size, acquaintanceship, and moderator on a response quality and quantity. *Journal of Marketing Research*, 19, 1-13.

Guba, E. G. & Lincoln, Y. S. (1985). *Effective evaluation*. San Francisco: Jossey-Bass.

Patton, M. Q. (1986). *Utilization-focused evaluation*, 2nd ed. Beverly Hills, CA: Sage.

Provus, M. (1971). *Discrepancy evaluation*. Berkeley, CA: McCutchan.

Rubin, H. J., & Rubin, I. S. (1995). *Qualitative listening: The art of hearing data*. Thousand Oaks, CA: Sage.

Scriven, M. (1967). The methodology of evaluation. In R. E. Stake (Ed.) *Curriculum evaluation*. American Educational Research Evaluation Monograph, 1, 39-83. Chicago: Rand McNally.

Sims, J. (2001). Collecting and analyzing qualitative data: Issues raised by the focus group. *Journal of Advanced Nursing*, 28(2), 345-352; Smaling, A. (2003). Inductive, analogical and communicative generalization. *International Journal of Qualitative Methods*, 2(1), p. 5.

Stake, R. (1967). The countenance of educational evaluation. *Teachers College Record*, 68, 523-540.

Stufflebeam, D. L. (1968). *Evaluation as enlightenment for decision making*. Columbus: Ohio State University Evaluation Center.

Stufflebeam, D. L. (1971). The relevance of the CIPP evaluation model for educational accountability. *Journal of Research and Development in Education*, 5, 19-25.

Sussman, S. Burton, D., Dent, C. W., Stacey, A. W., & Flay, B. R. (1991). Use of focus groups in developing an adolescent tobacco use cessation program. Collection norm effects. *Journal of Applied Social Psychology*, 21, 1772-1782.

Tyler, R. (1942). General statement on evaluation, *Journal of Educational Research*, 35, 492-501.

Tyler, R. (1950). *Basic principles of curriculum and instruction*. Chicago, IL: University of Chicago Press.

Vicsek, L. (2010). Issues in the analysis of focus groups: Generalisability, quantifiability, treatment of context and quotations. *The Qualitative Report*, 15(1), 122-141.

¹⁴⁵ Page 59

3. Report Of Expert Testimony by Dr. A. Eugene Reynolds dated March 15, 2011

Ethical considerations

I have read Dr. Eugene Reynolds report and deposition. He stated:

I was also asked to opine whether other members of the Plaintiff Class who have had similar experiences while in DHS state foster care custody are likely to have suffered similar psychological harm or been subject to a heightened risk of serious psychological harm.¹⁴⁶

And thus he testified in deposition:¹⁴⁷

11-13 Q Okay. Now, are the opinions you're drawing to the entire plaintiff class from a psychological perspective?

14. A Yes.

Dr. Reynolds, a psychologist, was asked to opine on the psychological state specific case report.¹⁴⁸ If he wanted to opine on the psychological state of others in the OKDHS foster care, he should have asked for a random sampling of foster care children and interviewed them; or he should have asked for a random sampling of case files and reviewed them, and then make his determination based on that evidence. Hence, the Court should not rely on the opinions of Dr. Reynolds pertaining to the entire Plaintiff class.

Statistical analysis

In relying on Dr. Jerry Milner's report,¹⁴⁹ Dr. Reynolds asserted, "Based on my research and clinical experience, it is my opinion that such placement instability is likely to have caused these children to suffer psychological harm".¹⁵⁰ Cause is asserted, but Dr. Reynolds conducted no causal study to support this assertion. Moreover, as discussed in my report regarding Dr. Milner's report¹⁵¹ also did not provide any research methodology, nor did he collect any data, nor did he provide any causal-based statistical methods to support this assertion. Similarly, regarding Dr. Smollar's deposition¹⁵² on her participation in Dr. Milner's report, she admitted their research design did not provide for any basis in drawing causal conclusions about the entire Plaintiff class. Hence, no assertion of cause on placement instability, or any assertion by Dr. Reynolds in his report, can be relied on.

Although Dr. Reynolds referred to the likelihood of harm of other members of the Plaintiff class, he conducted no study, collected no data, and computed no likelihood statistics to support this assertion.¹⁵³ It is clear from his deposition by "likely" he is referring to an

¹⁴⁶ Page 1

¹⁴⁷ Page 87

¹⁴⁸ Page 77

¹⁴⁹ Page 35

¹⁵⁰ Page 5

¹⁵¹ This report will be submitted by June 15, 2011.

¹⁵² *ibid*

¹⁵³ See, e.g., his deposition pages 187 – 200 where his response to whether he had collected data or had knowledge on about several dozen potentially pertinent variables relating to the Plaintiff class was no.

objective statistical quantitative method, although he has little knowledge of what it entails to determine likelihood:¹⁵⁴

21-23 ...you use the term likely quite a bit.

23 A Uh-huh.

24 Q What do you mean by likely?

...

Page 94

5 A I think the way that I would be using that is there's a strong probability that those things would happen...

17-18 Q Okay. I mean, is there an error rate in something that's likely?

19 A Not that I know of.

Moreover, Dr. Reynolds immediately backtracked from "likely," reducing his initial assertion to: "or, at a minimum, is likely to have subjected them to a heightened risk of serious psychological harm".¹⁵⁵ Even so, Dr. Reynolds did not provide any research methodology, nor did he collect any data, nor did he provide any statistical risk analyses to support the lesser assertion.

Dr. Reynolds admitted in deposition he remembered little about statistics:¹⁵⁶ "I'm going to go back to my statistics, what little I remember. He further testified that he held Dr. Milner to be a statistical expert."¹⁵⁷

10 Q Since you didn't do any statistical analysis...

21-25 A I think this would be out of my expertise, and since I didn't do that, I think that would be more Dr. Milner's. He's the statistician here. So this is a little out of my expertise, so I don't think I could answer because I don't know.

Dr. Reynolds characterized Dr. Milner as "the statistical guru."¹⁵⁸ Therefore, he felt comfortable relying on Dr. Milner's report prior to vetting its accuracy:¹⁵⁹

14-16 Q ... Did you do anything to kind of vet whether Dr. Milner's report was accurate?

17. A Yes.

18-19 Q What did you do to kind of ferret that out, if you will?

20 A I had a meeting with Dr. Milner

21 A When did that meeting occur?

22 A Last Friday.

¹⁵⁴ Page 93

¹⁵⁵ Ibid

¹⁵⁶ Page 69:18-19

¹⁵⁷ Page 70

¹⁵⁸ Page 71. Similarly, he characterized in deposition that Dr. Milner's statistical work was "well done," p. 185:19-22.

¹⁵⁹ Page 84

23-24 Q Okay. So that was after you wrote your report?

25. A Yes.

Page 85

1-3 Q Okay. So you make opinions based on his report prior to determining the accuracy of that report?

4 A. Yes. I was assuming it was accurate.

Contradicting his earlier testimony on the lack of expertise in statistics, Dr. Reynolds later testified how he could rely on Dr. Milner's report without taking any steps to verify its accuracy:¹⁶⁰

7-8 Q What is the scientific basis for your assumptions?

9-13 A Well, after reading the report and what my statistical experience had been in graduate school and undergrad school, I was impressed with the report. I felt it was a very well done statistical analysis.

As discussed at length in my evaluation and analysis of Drs. Milner and Smollar's report,¹⁶¹ Dr. Milner is not an expert in statistical matters, and he so stipulated in his deposition,¹⁶²

10-11 Q Would you consider yourself an expert on statistical quantitative data analysis?

13-14 A I do not consider myself to be an expert in that area.

Dr. Reynolds' assumption was incorrect; he was either unaware of or he ignored Dr. Milner's lack of expertise in statistical matters. Nor did Dr. Milner disabuse Dr. Reynolds of that misconception at their meeting the week prior to Dr. Reynolds' deposition, which had he done so may have changed Dr. Reynolds' deposition testimony.

As noted above, Dr. Reynolds didn't bother to obtain a few cases from Dr. Milner's study to vet the quality of that study, or to determine if the cases he reviewed were similar to those in Dr. Milner's study, or for that matter, the population of foster care in OKDHS:¹⁶³

16-19 Q You didn't go out and say, you know, Children's Rights or Dr. Milner, can I get a copy of a couple of these case files to kind of see if they're similar to J.P. and R. J.'s experiences?

20 A No. I didn't see my role as an investigator.

Yet, Kerlinger (1973) noted, "Survey research has a unique advantage among scientific methods: it is often possible to check the validity of survey data,"¹⁶⁴ which is something Dr. Reynolds could have and should have done, but didn't.

¹⁶⁰ Page 79

¹⁶¹ This report will be submitted by June 15, 2011.

¹⁶² Page 76. At the time of writing I have not yet been provided with a final copy of Dr. Milner's deposition. This Q&A occurred at 9:48 a. m. in the file, "Milner, D. S. W. J-Vol.1.docx."

¹⁶³ Page 85. Of course, such a small sample would not have been generalizable either to Dr. Milner's sample or the accessible population, but it might have served as a pilot reality check.

¹⁶⁴ Page 416

Post hoc interpretations

As discussed at length above, Rosenberg pointed out the major limitations of post hoc interpretations, one of which was explanations so derived are not nullifiable by the data. This plagues Dr. Reynolds deposition testimony as well.¹⁶⁵

12 Q Would it surprise you if that percentage of children that are maltreated in care was different than the percentage that Dr. Milner found?

15 Mr. Demuro: Object to the form.

16-17 A I don't know if it would surprise me or not. I haven't seen it, so I don't really know.

18. Q Would that change your opinions?

19. I don't think so, no.

On the basis of the lack of any research design or methodology invoked to support statements of causality, and his reliance on Dr. Milner's vacuous expertise in statistical matters, I urge the court to discount those statements as speculation.

References

Kerlinger, F. N. (1973). *Foundations of behavioral research*, 2nd ed. NY: Holt, Rinehart, & Winston.

¹⁶⁵ Page 128

4. Affidavit of Peg Hess, Ph. D. dated March 12, 2009, "Expert Report 3-12-09 (Oklahoma case).pdf"; "D. G. et al. v. Henry et al. Review of Named Plaintiffs' Case Files," by Peg McCartt Hess, Ph. D., ACSW, dated September, 2009

I have read Dr. Peg Hess' affidavit, which provided a remedy for the OKDHS for a malady that she had no personal knowledge of, and had provided no independent assessment or program evaluation. Her opinion "assume[d] that the allegations in the Plaintiffs' Complaint are true,"¹⁶⁶ and she further advised she "may have further recommendations concerning systemic changes required to protect children in DHS custody based upon a review of the nine Named Plaintiffs' case records,"¹⁶⁷ case records that she had not yet read as of the date of her affidavit. I have also read Dr. Hess' deposition.

Her proposed remedies were made without have conducted any independent review of OKDHS's policies to see if they were being adhered to,¹⁶⁸ without having conducted any independent review to determine if OKDHS's policies were in compliance with federal and state statutes,¹⁶⁹ and without having conducted any independent program evaluation of the efficacy of OKDHS's external and internal monitoring of children's outcomes.¹⁷⁰

Dr. Hess alleged trends¹⁷¹ based on her review of allegations regarding nine children named in Plaintiffs' complaint, although she conducted no statistical test of trend to support that allegation. She apparently used the term trend telescopically to mean her perceived themes,¹⁷² but not in the statistical sense of the word. She similarly asserted likelihood¹⁷³ and prediction¹⁷⁴ of harm without having conducted any statistical risk, likelihood analysis, or predictive analyses. To review, this was Dr. Hess's syllogism:

Major premise: Allegations of trend, likelihood, and prediction were not meant in an objective, statistical fashion.

Minor Premise: Allegations in the Complaint were acceptable without performing any independently conducted study, collection of no data, and calculating no data analyses.

Conclusion: Systemic change is required throughout OKDHS.

Dr. Hess opined, "It must be emphasized that Oklahoma's maltreated children can only be protected by an agency in which *all* of Plaintiffs' proposed remedies are implemented. Each proposed remedy is necessary, but not sufficient. All remedies are required."¹⁷⁵ Dr. Hess had not

¹⁶⁶ Page 2

¹⁶⁷ *ibid*

¹⁶⁸ Page 8

¹⁶⁹ *Ibid*

¹⁷⁰ Page 8-9

¹⁷¹ Page 2, 3

¹⁷² This is her recapitulation of terminology in describing five children's cases noted in her "Expert Report 9-30-09 (Oklahoma case).pdf", "'D. G. et al. v. Henry et al. Review of Named Plaintiffs' Case Files, by Peg McCartt Hess, Ph. D., ACSW, dated September, 2009, page 108.

¹⁷³ Page 1

¹⁷⁴ Page 6

¹⁷⁵ Page 10

conducted any study, collected any data, or performed any analyses that indicated *a*ll children who have entered into OKDHS were maltreated. Moreover, necessary but insufficient programmatic elements are objectively determined with, for example, with the general linear (or nonlinear) model (i.e., regression techniques such as forward entry or backward removal), by the presence of a significant adjusted ΔR^2 . Dr. Hess neither cited such studies from the literature, nor did she indicate in her affidavit that she had conducted such a study, to support her opinion on what is necessary but insufficient regarding programmatic changes in OKDHS.

Research Design

In her deposition,¹⁷⁶ Dr. Hess identified her research design as being qualitative.¹⁷⁷ She testified about the importance of standards in this methodology, and in particular with regard to study bias:

8-13 A ...Qualitative research, which is the kind of work that I did for this case record review and for much of the research I have done and published, has some very clear standards...and one the concerns that an investigator and others always have about qualitative research is the bias...

While she admitted she had read Plaintiffs' complaint¹⁷⁸, she testified her refusal to read Defendant's answer and amended answer as part of the data available to her this case:¹⁷⁹

20 Q Thank you. Did you ask to review a copy of the DHS answer to the complaint?

22 A No.

23-25 Q Did anyone at Children's Rights or any other law firm affiliated with the plaintiffs in this case ask you to review the DHS answer in this Case?

Page 57

1 A No.

2 - 3 Q Did you -- are you aware that DHS filed not only an original answer but an amended answer?

4-6 A I honestly don't recall. I did-- I was aware of some of the steps in the legal process, but I don't recall specifically.

7. Q so you haven't looked at any part of either the original or amended answer filed in this case by DHS?

10 A No.

Page 58

6-8 Q Do you think, in fairness, you ought to have read the answer filed by Oklahoma DHS to the complaint that you did review?

9 . No.

¹⁷⁶ Page 60

¹⁷⁷ Case reviews can be qualitative, quantitative, or a blend of both.

¹⁷⁸ Page 56:9-12; Moreover, she testified, "I always ask to review the complaint," (15-16), and "if they hadn't provided it for me to read, I would have asked for it" (18-19).

¹⁷⁹ Page 56

Miles and Huberman (1994) warned about the need to triangulate from independent sources to buttress qualitative findings:

As we showed in section 3 on triangulating, findings are more dependable when they can be buttressed from several independent sources. Their validity is enhanced when they are confirmed by more than one "instrument" measuring the same thing.

Still the fact that usually one person is doing all of this measuring with homemade instruments is grounds for precaution. Once you've latched onto a hypothesis that makes powerful sense of the case, it's the dickens to get rid of it. Confirmation seems, almost magically, to come from all quarters. New interviews, observations, and documents all appear to be verification, and to fit together coherently. Disconfirming evidence is absent or feeble. This is a heady and very dangerous time, and it usually means you are knee-deep in the "holistic fallacy" putting more logic, coherence, and meaning into events than the inherent sloppiness of social life warrants.¹⁸⁰

She violated Miles and Huberman's directive "to protect against this,"¹⁸¹ by having someone independently replicate results. Unfortunately, Dr. Hess' choices for replication, those who would do "fact-checking step" and would "look at this document and would see what I saw"¹⁸² were two paralegals employed by Children's Rights, Kelley Fong and "Mavis".¹⁸³ Obviously they could not independently help her in any way toward achieving "confirmability, trustworthiness, reliability, and validity via an audit, methods used in qualitative evaluation,"¹⁸⁴

21 Q and that's what Kelly and Mavis were doing?
22 A Yes.¹⁸⁵

Generalizations and Generalizability

In her deposition, Dr. Hess was asked about sweeping generalizations made in her report:¹⁸⁶

10 Q...these common findings are suggestive of systemic deficiencies and persistent preventable failures...

Page 86

6 Q ...does the phrase suggestive of indicate an absolute certainty on your part?

8 A Based on the data in my report, yes.

9 Q And the data in your report?

10 A In my report.

¹⁸⁰ Page 273

¹⁸¹ *ibid*

¹⁸² Deposition 63:24

¹⁸³ *Ibid* 64:7

¹⁸⁴ *Ibid* 65:8

¹⁸⁵ *Ibid*

¹⁸⁶ Page 85

11-13 Q So the data from the five children made you absolutely certain of systemic deficiencies and persistent preventable failures?

14 A the data in this report pulled from the children's case files and the findings based on that data are consistent with the specific deficiencies and preventable failures.

She recanted, however, soon thereafter on meaning of "suggestive."¹⁸⁷

20-24 Q If I asked you the same questions about your use of the phrase is suggestive of as it appears in other parts of your reports, would your answers be the same as when I asked you the first time just a few minutes ago, that --

25 A It would depend on the sentence that the phrase was in.

Because the case files reviewed were not randomly selected, and on the contrary, were chosen because they represented extreme cases, Dr. Hess' findings cannot be generalized to the population of children in foster care at OKDHS, a conclusion she recognized after she actually examined the data over two months later after the filing of her affidavit.¹⁸⁸ Indeed, it is a fundamental premise of the qualitative case study that its findings do not and cannot be generalized to the accessible population; they only "represent the case[s]."¹⁸⁹

Dr. Hess testified in her deposition of a scientifically unsupportable approach to generalizability. For better or worse, she believed a deliberative sample of seven children's cases, selected by the Plaintiff or the Defendant, would be sufficient to generalize to the entire Plaintiff class. The former was expressed in her affidavit/reports, and the latter in deposition.¹⁹⁰ For example, she was asked if she would "feel comfortable, as a scientist"¹⁹¹ if DHS gave her "seven case histories of children selected not randomly but selected by DHS, and those files showed few or very few problems of the children while they were in care and they achieved permanency within an acceptable time period."¹⁹² She was then asked if she would be "scientifically comfortable saying my conclusion is that these case files appear to indicate that DHS has few, in any, problems?"¹⁹³ Her response was "if I didn't see system's problems, I would certainly feel comfortable saying that"¹⁹⁴, meaning on the basis of seven contrary cases provided by OKDHS she would testify to the Court the opposite of the conclusions she stated her report for cases provided to her by Plaintiffs' counsel.

Wolcott (1987) cautioned, "If the truth be known, ethnographers, like the rest of us, make whopping generalizations from rather modest observations of a few cases."¹⁹⁵ The unfortunately standard of generalizability found among many self-identified qualitative methodologists was revealed by Lancey (1993), who painted this picture: results are considered

¹⁸⁷ Page 88

¹⁸⁸ "Expert Report 9-30-09 (Oklahoma case).pdf", page 108.

¹⁸⁹ Stake (1994), p. 245, bracketed material added for clarity.

¹⁹⁰ Page 104-106

¹⁹¹ Page 105:14-15

¹⁹² :15-23

¹⁹³ :25

¹⁹⁴ Page 106:11-12

¹⁹⁵ Page 50

credible and generalizable when they mirror "admittedly, limited, observations"¹⁹⁶ held by the qualitative research, but are rejected when they don't.

Data reliability

Miles and Huberman (1994) noted another protection against biased findings is to "collect new information"¹⁹⁷ from new children (i.e., other cases from the Plaintiff class in this case) or new "informants" (i.e., independent sources of information, such as parents, caseworkers, etc. outside the case records).¹⁹⁸ Dr. Hess failed to follow this procedure for confirming qualitative findings, as she testified in her deposition:¹⁹⁹

5-7 Q ...Do you have information about any particular children in the class other than the nine named plaintiffs?

12-14 Q ...Do you have any information from any source about any children other than in the case files that you reviewed?

15 A No.

Dr. Hess was given allegations (and presumably potential remedies) by Plaintiffs, and filed an affidavit in support of those allegations (and remedies), while reserving the right to change her opinion if other information came to light that would mitigate her opinion.²⁰⁰ However, Dr. Hess made no proper effort to confirm those findings via standard qualitative methods. Hence, I recommend the Court temper her case reviews that may have been produced to confirm an opinion formed prior to having considered her review of data in this case, and to the exclusion of any exculpatory data that was produced by Defendants.

References

Lancey, D. F. (1993). *Qualitative research in education: An introduction to the major traditions*. White Plains, NY: Longman.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*, 2nd ed. Thousand Oak: Sage.

Stake, R. E. (1994). *Case studies*. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research*, Thousand Oaks, CA: Sage, p. 245.

Walcott, H. (1987). *On ethnographic intent*. In G. D. Spindler & L. Spindler (Eds.), *Interpretive ethnography of education*. Hillsdale, NJ: Erlbaum.

¹⁹⁶ Page 165

¹⁹⁷ Page 273

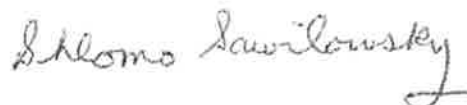
¹⁹⁸ *ibid*

¹⁹⁹ Page 119

²⁰⁰ *Ibid*, page 2

Conclusion

Mr. Goad, Dr. Miller, Dr. Reynolds, and Dr. Hess, experts for Plaintiffs, offered the Court opinions that were (a) rife with methodology errors and misunderstandings, (b) based on assertions, speculations, and post hoc explanations, and (c) bereft of rigorous scientific principles underlying evaluation and research methodology. Hence, I urge the Court to discount their opinions accordingly.

A handwritten signature in cursive script that reads "Shlomo Sawilowsky". The signature is written in dark ink and is positioned above a horizontal line.

Shlomo S. Sawilowsky, Ph. D.

**WAYNE STATE UNIVERSITY
PROFESSIONAL RECORD**

Name: Shlomo S. Sawilowsky

Date Prepared: 27 May 2011

Office Address: #371 EDUC
Wayne State University
Detroit, MI 48202

Mailing Address: P. O. Box 48023
Oak Park, MI 48237

Office: (313) 577-5244

E-Mail: shlomo@wayne.edu

Fax: (313) 577-5235 (8:00 a. m - 6:00 p. m. EST)

Department/College: Educational Evaluation and Research, Theoretical and Behavioral Foundations, College of Education

Present Rank and Date of Rank: Professor (1997)

WSU Appointment History

Year Appointed, Rank: 1987, Assistant Professor

Year Awarded Tenure: 1993

Year Promoted to Associate Professor: 1992

Year Promoted to Full Professor: 1997

Program Coordinator (Department Chair), Educational Evaluation and Research:
1994 – 2009.

**Interim Assistant Dean, Division of Administrative and Organizational Studies, and
Division of Theoretical and Behavior Foundations:** January, 2008 – August, 2008.

**Assistant Dean, Division of Administrative and Organizational Studies, and Division
of Theoretical and Behavior Foundations:** January, 2009 – August, 2010.

Place of Birth: Augusta, Georgia

Citizen of: USA

Education

- June 1981 - August 1985

University of South Florida, College of Education.

Ph.D. in Curriculum and Instruction with program specialization in Educational Statistics,
Measurement, Research, and Evaluation.

Cognate in Business Management, College of Business Administration, U.S.F.
Grade Point Average: Major: 3.7 Cognate: 3.8 (4.0 scale)

January 1980 - June 1981

University of South Florida, College of Education

Master's in Guidance and Counseling Education.

Electives in Measurement and Evaluation.

Grade Point Average: Major: 3.8 Electives: 4.0 (4.0 scale)

January 1975 - June 1979

Rabbinical College of America, 226 Sussex Avenue, Morristown, New Jersey. The Rabbinical College of America is accredited by the New Jersey State Board of Higher Education and the professional agency, AARTS, the Association of Advanced Rabbinical and Talmudical Schools.

Bachelor of Religious Studies.

Major in Talmudical Studies.

Minor in Religious Education.

Grade Point Average: Major: 3.5 Minor: 3.7 (4.0 scale)

Faculty Appointments At Other Institutions

August 1985 - August 1987

a. University of South Florida, College of Education, Institute for Instructional Research and Practice.

Visiting Assistant Professor and Institute Associate

Duties: Test development, mainframe and microcomputer applications in education, data analysis, survey research, linear equating, item bank development, statistical expertise.

b. University of South Florida, College of Education, Department of Measurement, Research, and Evaluation.

Adjunct Assistant Professor

Duties: Taught Undergraduate and Master's level measurement and evaluation for teachers; Master's level research in education.

August 1983 - August 1985

U.S.F., College of Education, Department of Measurement, Research, and Evaluation.

Adjunct Instructor

Duties: Taught Ph.D. level computer statistics (SPSS and SPSSx) and Undergraduate level measurement and evaluation for teachers.

Professional Society Memberships (Current/Lapsed)

1. American Educational Research Association (AERA)

a. Division D Measurement and Evaluation

b. SIG/ Educational Statisticians

2. American Mathematical Association (AMA)
3. American Psychological Association (APA)
 - a. Division 5, Measurement & Evaluation
4. American Psychological Society (APS)
5. American Statistical Association (ASA)
6. Mid-West Educational Research Association (MWERA)
7. National Council on Measurement In Education (NCME)
8. Psychometric Society
9. Royal Statistical Society (Fellow)

Honors/Awards:

1. 2004 American Educational Research Association Publications: Outstanding Professional Service Award
2. 2000-2002 Wayne State University: Distinguished Faculty Fellow
3. 1999 Wayne State University: Faculty Mentor Award
4. 1998 Wayne State University: Outstanding Graduate Mentor Award
5. 1997 Wayne State University College of Education: Award For Excellence In Teaching
6. 1995 Wayne State University President's Award: For Excellence In Teaching
7. 1995 Wayne State University: Career Development Award
8. 1987 Eleventh Annual Distinguished Papers, State and Regional Associations, American Educational Research Association: "The Rank Transform"
9. 1986 Distinguished Paper Award, Florida Educational Research Association: "Properties of the Rank Transformation Statistic in Factorial ANOVA"
10. 1981 Elected member of Phi Kappa Phi National Honor Society

Biographical Citations

1. 2004 – 2011. *American Men & Women of Science. A biographical directory of today's leaders in physical, biological and related sciences.* 22nd – 29th editions. Thomson Gale.
2. 1990 *Who's Who in American Education*, Vol. II. National Reference Institute, 608.

I. Teaching

A. Years At Wayne State: August, 1987 – January, 2008; August 2010 – present.

B. Years At Other Colleges/Universities:

University of South Florida: August, 1983 - May, 1987.

C. Courses Taught At Wayne State

2. Graduate

1. CED 8070, Advanced Seminar: Counseling Research (3 hours)
2. EER 7610, Evaluation and Measurement (2-3 hours)
3. EER 7620, Practicum in Evaluation (1-6 hours)
4. EER 7630, Fundamentals of Statistics (3 hours)
5. EER 7640, Fundamentals of Quantitative Research (3 hours)
6. EER 7650, Computer Use in Research (3 hours)
7. EER 7660, Advanced Statistics Lab (1 hour)

8. EER 7900, Fundamentals of Qualitative Research (3 hours)
9. EER 8700, Advanced Qualitative Evaluation: Theory & Practice (3 hours)
10. EER 8760, Advanced Measurement I: Classical Measurement Theory (3 hours)
11. EER 8800, Variance and Covariance Analysis (4 hours)
12. EER 8820, Multivariate Analysis (4 hours)
13. EER 8860, Nonparametric, Permutation, Exact and Robust Methods (4 hours)
14. EER 8880, Monte Carlo Methods (1 hour)
15. EER 8992, Research and Experimental Design (3-4 hours)

D. Dissertations/Theses Directed

Note: Entries *without* date/title are post qualifying examinations and are working on their dissertations. Entries with titles and dates in parenthesis but *without* page numbers are expected to be completed in 2011/12.

Ph. D./Ed. D. (Major Advisor)

1. Willie White (Ed. D.)
2. Zora Cvetkovski-Injic (Ph. D.)
3. Jamie Gleason (Ph. D.)
4. Harry D. Coakley (Ph. D.)
5. Elizabeth Moen (Ph. D.)
6. Carey Vigor (Ph. D.)
7. Carrie J. Sapp. (Ed. D.)
8. Savierpierre Maggio. (Ph. D.)
9. Gary Francy. (Ph. D.)
10. Alice Abrams-Hunter. (Ed. D.)
11. Kundisai Ndhella. (Ph. D.)
12. Tanina Foster (Ph. D.)
13. Heatherlun Uphold (Ph. D.)
14. Rasha Elhage (Ph. D.) "Conceptualizing a special education research agency in Lebanon. (2012).
15. Holly Child. (Ph. D.) "Construct validity of the *Measures of Criminal Attitudes and Associates* scale." (2012).
16. Tammy Grace (Ph. D.). "Missing values imputation in parametric and nonparametric - tests." (2011).
17. Daryle Alan Olson (Ph. D.) "Tests for change in location and scale." (2011).
18. Norman Haidus. "Comparative power of the Kornbrot rank-difference and Wilcoxon signed-ranks test." (2011).
19. Linda Ellington. "Effects of non-normal distributions on tests of equivalence". (2011).
20. Marvin Gibbs (Ph. D.). "MiBLSi program evaluation of participatory elementary schools from 2003-2009." (2011).
21. Jason Capobianco (Ph. D). "Robustness of the Achievable Benchmark of Care index using various measures of central tendency." (2011).
22. Julie Smith (Ph. D.). "Reliability generalization: *Lapsus linguae*." (2011).
23. Joe Smith (Ed. D.) "employee subgroup perceptions of the organization culture of the John D. Dingell Veterans Administration Medical Center". (2011).

24. Jason Parrott. "The effect of nonrandom selection of clusters in a two stage cluster design." (2011).
25. Michael Lance (Ph. D.). "Type I and II robustness of the symmetrically-Winsorized t Test using approximate vs. Monte Carlo derived critical values." 67 pp. 2010.
26. Stephanie Wren (Ed. D.). "Type II robustness of $h_0: \rho=0$ for non-normal distributions," 99 pp. 2010.
27. Piper A. Farrell-Singleton. (Ph. D.). "Critical values for the two independent samples Winsorized t test," 58 pp., 2010.
28. Frances Dolly (Ed. D.). "The effectiveness of implementing computer assistive technology in a high school special education classroom," 148 pp., 2010.
29. Bulent Ozkan (Ph. D.). "Comparison of university researchers; and statistical consultants' diagnoses and applications on research problems," 63 pp., 2008.
30. Roberta Foust. (Ed. D.). "Learning strategies, motivation, and self-reported academic outcomes of students enrolled in web-based coursework," 116 pp., 2008.
31. Gregory Karapetian (Ph. D.). "Heart rate variability as a non-invasive biomarker of sympatho-vagal interaction and a determinant of metabolic threshold," 141 pp, 2008.
32. Shira Solomon. (Ph. D.) "Comparison of four methods for creating Z scores," 123 pp., 2008.
33. Andree' Sampson. (Ed. D.) "A survey of Midwestern education graduate students' coping strategies and subsequent development of a three factor stress scale," 109 pp., 2007.
34. Tana Jane Bridge. (Ph. D.) "Deconstructing the comparative power of the independent samples t test vs. the Wilcoxon Mann-Whitney test for shift in location," 77 pp., 2007.
35. Lori Shingledeker Roy. (Ph. D.) "Algebra readiness assessment," 78 pp., 2007.
36. Reza Ziaee. (Ph. D.). "Logistic regression versus Mantel-Haenszel differential item functioning (DIF) to predict length of stay for pneumonia, and acute myocardio infraction," 2007.
37. Candice Pickens. (Ed. D.) "Predicting critical thinking via concept mapping," 79 pp., 2007.
38. Dave Fluharty. (Ph. D.) "Simulation-based specifications for evaluating high stakes educational test results from a Bayesian epistemological framework," 208 pp., 2007.
39. John Cuzzocrea. (Ph. D.) "Robustness to internal correlation structure of Sawilowsky's I test for trend in construct validity," 59 pp., 2007.
40. Kevin Duwan Lawson. (Ph. D.) "Statistical inference for a linear function of medians: a comparison of the Maritz-Jarrett and Price-Bonett estimators," 117 pp., 2006.
41. Michele Weber. (Ph. D.) "Robustness and power of the t, permutation t, and Wilcoxon tests," 74 pp., 2006.
42. Andrew J. Tierman. (Ph. D.) "Testing for exponentiality using a two-moment estimator and a median-centered distance statistic," 319 pp., 2006.
43. Kalvin Holt. (Ed. D.) "Norming the *Self Determination Student Scale* with an incarcerated delinquent population," 62 pp., 2006.
44. Patricia A. Pelavin. (Ph. D.) "The management of nonnormal variables in structural equation modeling," 212 pp., 2006.
45. Saydee J. Mends-cole. (Ed. D.) "Coverage and interval length of Welch's and Yuen's procedures for shift in location and change in scale for (un)equal sample sizes," 129 pp., 2006.

46. Amittai Benami. (Ed. D.) "Longitudinal analysis of satisfaction, stress, and retention of teachers," 237 pp., 2006.
47. Boris Shulkin. (Ph. D.). "Estimating a population median with a small sample," 90 pp., 2006.
48. Jack Cullen Hill, Jr. (Ph. D.). "The effects of pseudorandom number generator and initial seed selection on Monte Carlo simulations," 223 pp., 2005.
49. Stephanie Krol-Jersevic (Ed. D.). "Measuring oral communication apprehension in children," 89 pp., 2004.
50. Karen Lee (Ph. D.). "Parametric and nonparametric IRT models for assessing differential item functioning," 113 pp., 2003.
51. Bruce R. Fay (Ph. D.). "A Monte Carlo computer study of the power properties of six distribution-free and/or nonparametric statistical tests under various methods of resolving tied ranks when applied to normal and nonnormal data distributions." 528 pp, 2003.
52. Jennifer M. Bunner (Ph. D.). "Forming a bracketed interval around the trimmed mean: Alternatives to S_w ," 112 pp., 2003.
53. Rimma Novojenova (Ed. D.). "Measurement of teacher's personalization in the classroom environment," 152 pp., 2002.
54. Kathy R. Peterson (Ph. D.). "A study of six modifications of the ART (aligned rank transform) used to test for interaction," 361 pp., 2001.
55. Scott Compton (Ph. D.). "Type I error and power properties of seven two-sample tests when treatment affects location and scale," 276 pp., 2001.
56. Karen Crawforth (Ph. D.). "Measuring the inter-rater reliability of a data collection instrument developed to evaluate anesthetic outcomes, 114 pp., 2001.
57. Jim Gullen (Ph. D.). "Goodness of fit indices as a one factor structural equation model," 61 pp., 2000.
58. Frederick F. Strale, Jr. (Ph. D.). "Strategic learning theory utility: A criterion related validity study of the LASSI using Pearson correlations and structural equation models, 146 pp., 2000.
59. Juanita M. Lyons (Ph. D.) "Methodology for the determination of the reliability of database derived data," 115 pp., 2000.
60. Joe Musial. (Ph. D.) "Comparing exact tests and asymptotic tests with colorectal cancer variables within the National Health and Nutrition Examination Survey III," 189 pp., 1999.
61. Gail Fahoome. (Ph. D.). "A Monte Carlo study of twenty-one nonparametric statistics with normal and nonnormal data," 519 pp., 1999
62. Michael Wolf-Branigin (Ph. D.) "Point pattern analysis in measuring physical inclusion of people with developmental disabilities," 182 pp., 1999
63. Cynthia Creighton (Ph. D.) "Critical thinking skills and learning styles of first-year students in weekend occupational therapy programs," 80 pp, 1999.
64. William Cade. (Ph. D.), "Sampling procedures and Type I error rates (for nonnormal populations)," 81 pp., 1998.
65. Anil N. F. Aranha. (Ph. D.), "Modeling self-determination among the elderly: A psychometric study of health care decision-making," 102 pp., 1998
66. Michael J. Nanna. (Ph. D.), "Analysis of Likert scale data in disability and medical rehabilitation research," 220 pp., 1997

67. Todd Headrick. (Ph. D.), "Type I error and power of the rank transform analysis of covariance (ANCOVA) in a 3x4 factorial layout," 355 pp., 1997
68. Thilak Gunasekera (Ph. D.), "Effects of pretest sensitization associated with cooperative learning strategies on the achievement level of adult mathematics students," 97 pp., 1997
69. Margaret P. Posch. (Ph. D.), "Comparative properties of nonparametric statistics for analyzing the 2xc layout for ordinal categorical data," 78 pp., 1996
70. Patrick D. Bridge (Ph. D.), "The comparative power of the independent-samples t-test and Wilcoxon rank sum test in nonnormal distributions of real data sets in education and psychology," 113 pp., 1996
71. Uju P. Eke (Ph. D.), "A construct validation of *Self-Determination* instrument: Using adult substance abuse consumers in residential settings," 79 pp., 1996
72. Dennis J. Mullan (Ph. D.), "An investigation of a residential customer satisfaction model at an electric utility," 102 pp., 1995
73. Deborah L. Kelley (Ph. D.), "The comparative power of several nonparametric alternatives to the analysis of variance in a 2x2x2 layout," 214 pp., 1994
74. Sharonlyn Morgan-Harrison (Ph. D.), "Some construct validation evidence for two new measures of self-determination," 89 pp., 1994
75. Joyce Washington (Ed. D.), "Health education and measuring the effects of minority student self-concept as it relates to school performance," 104 pp., 1993

Note: Entries with dates in parenthesis and *without* title/ page numbers have an approved thesis/project topic and are working on their dissertations.

Ph. D. Cognate Advisor

76. Heidi Kattula. (Ph. D.). (2011).
77. Mary Pratt Cooney. (Ph. D.). "A comparison study of process drama and actor training". 124 pp., 1999.

Ph. D. 2nd Advisor: 12 (#78 – #90)

Ph. D. Committee Member: 46 (#91 – #137)

ABD (Time Expired)

138. Wendy Nevins (Ed. D.) 1992.
139. Franklyn Harrell. (Ed. D.) 2007.
140. Sia Robinson. (Ed. D.) 2008.
141. P. Monet Conner. (Ed. D.) 2008.
142. LaTonya Wallace-Hardiman (Ph. D.) 2011.

Note: Entries with dates in parenthesis and *without* title/ page numbers have an approved thesis/project topic and are working on their theses.

M. Ed. Theses/Projects Directed

1. Kenyatta A. Sabir. (2011)
2. Jack Sawilowsky (2nd advisor) (2011).
3. Tiffany Davis. (2011)
4. Brittany Maxey. (2011)

5. Esther Maples. (M. Ed.). "Effectiveness of success for all education program in low income states," 51 pp., 2010.
6. Maurice Kavanaugh. (M. Ed.). "A reliability study of multiple choice instruments used to assess dolch word acquisition and reading interest in grades 3 and 4 school children," 58 pp, 2010.
7. Tanisha Stacey Barrington. (M. Ed.) "The effects of translation on test scores by English-language and French-language students," 29 pp., 2008
8. Emily Bennett McEvoy. (M. Ed.) "Psychometric properties of a school improvement entrance and exit survey," 35 pp., 2007.
9. Elizabeth Perkin Moen. (M. Ed.) "Wayne State University first-year freshmen retention Fall 2006 to Fall 2007: Using logistic regression to predict retention probabilities," 41 pp. 2008.
10. Guifang Ding. (M. Ed.) "Reliability and validity of a survey for designing a global positioning system," 37 pp. 2007.
11. Diane Dolinshek. (M. Ed.) "An instrument to assess physical therapists' knowledge and attitudes regarding phantom limb pain," 55 pp. 2006.
12. Carla Howe. (M. Ed.) "Reliability and validity of test writing scores of Plymouth-Canton's Bridge program," 35 pp. 2006.
13. Lawrence Schwartz, MD. (M. Ed.) "Simulation vs. traditional methods in assessing cardiac training," 50 pp. 2006.
14. Tanina S. Foster. (M. Ed.). "Information seeking behavior and source preferences: A comparison to hints," 51 pp., 2004.
15. Jennifer Curtis. (M. Ed.). "A comparative analysis of Walled Lake Consolidated Schools' mathematics assessment program and the state of Michigan's educational assessment program," 81 pp., 2004.
16. Scott Millis, Ph. D. (M. Ed.) Master's project. 2003.
17. Robert Brickner. (M. Ed.). Master's project. 2003.
18. Simone Perry. (M. Ed.), "Parental involvement in primary inner-city school settings," 54 pp., 2002.
19. Lena Tzortinis. (M. Ed.). Master's project. 2002.
20. Maurice Lester. (M. Ed.), "Standard treatment plus relapse prevention: A summative evaluation," 58 pp., 2001
21. Donna Kueber. (M. Ed.) Master's project. 2001.
22. Chantelle Morrison (M. Ed.), "The quantitative value of summer individual education plans (IEPS)," 38 pp., 2000
23. Gail Fahoome (M. Ed.), "Predicting mathematics MAT7 scores with the MEAP for Detroit Public Schools For 1994-1995 and 1996-1997," 39 pp., 1998
24. Donna M. Johnson (M. Ed.), "A meta-analytic review of differences between African-Americans and European-Americans on measures of intelligence," 97 pp., 1997
25. Scott Compton (M. Ed.), "A comparison of student achievement levels preceding animal dissection vs. computer simulated animal dissection laboratory techniques," 63 pp., 1996
26. Kevin M. Lane (M. Ed.), "The viability of the static push-up as a measure of upper body strength and endurance," 40 pp., 1994
27. Letetia D. Kemp (M. Ed.), "Newborn assessment from birth to six weeks," 37 pp., 1994
28. Gregg Milligan. (M. Ed.). Master's project. 1992.

29. Iain K. Todd (M. Ed.), "A review of effect size in acquired immune deficiency syndrome research designs," 31 pp., 1992.

Wayne State University Graduate School Graduate Exhibition Presentations

2010

1. David Felder. How does modifying a mathematics curriculum impact students' success on standardized test preparation?
2. Valerie Felder. Effectively assessing and measuring students' reading progress.

Monographs Published Based on Student Theses/Dissertations

1. Schwartz, L., & Sawilowsky, S. (2010). Randomized comparison trial of CBL v HPS in medical education: A study of the effectiveness of new technology in medical education. Germany: VDM Verlag. ISBN: 9783639042788.

E. Curriculum Development

1996 - 1998

1. EER 7660 Advanced Statistics Lab (1 hour)
2. EER 7900 Fundamentals of Qualitative Research (3 hours)
3. EER 8700 Advanced Qualitative Evaluation: Theory & Practice (3 hours)
4. EER 8760 Advanced Measurement I: Classical Measurement
5. EER 8770 Advanced Measurement II: Modern Measurement
6. EER 8860 Nonparametric, Permutation, Exact, & Robust Methods
7. EER 8880 Monte Carlo Methods
8. EER 8900 Qualitative Design for School Research

Guest Lectures

1. Sawilowsky, S. (2011). *Research Design*. Chief Residents, Administrative Leadership, Chief and Associate Program Directors, & Internal Medicine Residency, School of Medicine, Wayne State University.
2. Sawilowsky, S. (2011). *Data Analysis*. Chief Residents, Administrative Leadership, Chief and Associate Program Directors, & Internal Medicine Residency, School of Medicine, Wayne State University.
- 3. Sawilowsky, S. (2010). *Test construction: Validity*. Chief Residents, Administrative Leadership, Chief and Associate Program Directors, & Internal Medicine Residency, School of Medicine, Wayne State University.
4. Sawilowsky, S. (2010). *Test construction: Reliability*. Chief Residents, Administrative Leadership, Chief and Associate Program Directors, & Internal Medicine Residency, School of Medicine, Wayne State University.
5. Sawilowsky, S. (2010). *Kabbalah: Introduction to theoretical Jewish mysticism*. Oakland University, Rochester, MI.
6. Sawilowsky, S. (2010). *Chassidus: Introduction to Jewish philosophy*. Oakland University, Rochester, MI.
7. Sawilowsky, S. (2010). *Research Design*. Chief Residents, Administrative Leadership, Chief and Associate Program Directors, & Internal Medicine Residency, School of Medicine, Wayne State University.

8. Sawilowsky, S. (2010). *Data Analysis*. Chief Residents, Administrative Leadership, Chief and Associate Program Directors, & Internal Medicine Residency, School of Medicine, Wayne State University.
9. Sawilowsky, S. (2009). *Test construction: Validity*. Chief Residents, Administrative Leadership, Chief and Associate Program Directors, & Internal Medicine Residency, School of Medicine, Wayne State University.
10. Sawilowsky, S. (2009). *Test construction: Reliability*. Chief Residents, Administrative Leadership, Chief and Associate Program Directors, & Internal Medicine Residency, School of Medicine, Wayne State University.
11. Sawilowsky, S. (2009). *Research Design*. Chief Residents, Administrative Leadership, Chief and Associate Program Directors, & Internal Medicine Residency, School of Medicine, Wayne State University.
12. Sawilowsky, S. (2009). *Data Analysis*. Chief Residents, Administrative Leadership, Chief and Associate Program Directors, & Internal Medicine Residency, School of Medicine, Wayne State University.
13. Sawilowsky, S. (2008). *Test construction: Validity*. Chief Residents, Administrative Leadership, Chief and Associate Program Directors, & Internal Medicine Residency, School of Medicine, Wayne State University.
14. Sawilowsky, S. (2008). *Test construction: Reliability*. Chief Residents, Administrative Leadership, Chief and Associate Program Directors, & Internal Medicine Residency, School of Medicine, Wayne State University.
15. Sawilowsky, S. (2008). *Research Design*. Chief Residents, Administrative Leadership, Chief and Associate Program Directors, & Internal Medicine Residency, School of Medicine, Wayne State University.
16. Sawilowsky, S. (2008). *Data Analysis*. Chief Residents, Administrative Leadership, Chief and Associate Program Directors, & Internal Medicine Residency, School of Medicine, Wayne State University.
17. Sawilowsky, S. (2007). *Test construction: Validity*. Chief Residents, Administrative Leadership, Chief and Associate Program Directors, & Internal Medicine Residency, School of Medicine, Wayne State University.
18. Sawilowsky, S. (2007). *Test construction: Reliability*. Chief Residents, Administrative Leadership, Chief and Associate Program Directors, & Internal Medicine Residency, School of Medicine, Wayne State University.
19. Sawilowsky, S. (2007). *Research Design*. Chief Residents, Administrative Leadership, Chief and Associate Program Directors, & Internal Medicine Residency, School of Medicine, Wayne State University.
20. Sawilowsky, S. (2007). *Data Analysis*. Chief Residents, Administrative Leadership, Chief and Associate Program Directors, & Internal Medicine Residency, School of Medicine, Wayne State University.
21. Sawilowsky, S. (2006). *Test construction: Validity*. Chief Residents, Administrative Leadership, Chief and Associate Program Directors, & Internal Medicine Residency, School of Medicine, Wayne State University.
22. Sawilowsky, S. (2006). *Test construction: Reliability*. Chief Residents, Administrative Leadership, Chief and Associate Program Directors, & Internal Medicine Residency, School of Medicine, Wayne State University.

23. Sawilowsky, S. (2006). *Research Design*. Chief Residents, Administrative Leadership, Chief and Associate Program Directors, & Internal Medicine Residency, School of Medicine, Wayne State University.
24. Sawilowsky, S. (2006). *Data Analysis*. Chief Residents, Administrative Leadership, Chief and Associate Program Directors, & Internal Medicine Residency, School of Medicine, Wayne State University.
25. Sawilowsky, S. (2005). *Test construction: Validity*. Chief Residents, Administrative Leadership, Chief and Associate Program Directors, & Internal Medicine Residency, School of Medicine, Wayne State University.
26. Sawilowsky, S. (2005). *Test construction: Reliability*. Chief Residents, Administrative Leadership, Chief and Associate Program Directors, & Internal Medicine Residency, School of Medicine, Wayne State University.
27. Sawilowsky, S. (2004). Test construction. Cleary College, Ann Arbor, MI.
28. Sawilowsky, S. (2004). *Test construction: Reliability*. Chief Residents, Administrative Leadership, Chief and Associate Program Directors, & Internal Medicine Residency, School of Medicine, Wayne State University.
29. Sawilowsky, S. (2004). *Test construction: Validity*. Chief Residents, Administrative Leadership, Chief and Associate Program Directors, & Internal Medicine Residency, School of Medicine, Wayne State University.
30. Sawilowsky, S. (2004). *Research Design*. Chief Residents, Administrative Leadership, Chief and Associate Program Directors, & Internal Medicine Residency, School of Medicine, Wayne State University.
31. Sawilowsky, S. (2004). *Data Analysis*. Chief Residents, Administrative Leadership, Chief and Associate Program Directors, & Internal Medicine Residency, School of Medicine, Wayne State University.
32. Sawilowsky, S. (2003). Test construction. GTA Orientation, Office for Teaching and Learning, Wayne State University.
33. Sawilowsky, S. (2002). Test construction. College of Nursing, Wayne State University.
34. Sawilowsky S. (2002). Test construction. Faculty Development Workshop, Office For Teaching and Learning, Wayne State University.
35. Sawilowsky S. (2001). Test construction. Graduate Teaching Assistant Development Workshop, Graduate School, Wayne State University.
36. Sawilowsky, S. (2001). Test construction. Cleary College, Howell, MI.
37. Sawilowsky S. (2001). Test construction. Faculty Development Workshop, Office For Teaching and Learning, Wayne State University.
38. Sawilowsky S. (2001). Test construction. Faculty Development Workshop, Wayne County Schools, Detroit, MI.
39. Sawilowsky S. (2001). Test construction. Graduate Teaching Assistant Development Workshop, Graduate School, Wayne State University.
40. Sawilowsky, S. (2000). Test construction. College of Medicine, Wayne State University.
41. Sawilowsky S. (2000). Test construction. Faculty Development Workshop, Office For Teaching and Learning, Wayne State University.
42. Sawilowsky S. (2000). Test construction. Graduate Teaching Assistant Workshop, Graduate School, Wayne State University.
43. Sawilowsky S. (1999). Test construction. Faculty Development Workshop, Oakland County Schools, Oak Park, Michigan.

44. Sawilowsky S. (1999). Test construction. Faculty Development Workshop, Office For Teaching and Learning, Wayne State University.
45. Sawilowsky S. (1999). Test construction. Graduate Teaching Assistant Workshop, Graduate School, Wayne State University.
46. Sawilowsky S. (1998). Test construction. Graduate Teaching Assistant Workshop, Graduate School, Wayne State University.
47. Sawilowsky S. (1997). Test construction. Graduate Teaching Assistant Workshop, Graduate School, Wayne State University.
48. Sawilowsky, S. (Winter, 1989). Nonparametric tests of interaction: Theory. Research Dialogue Series, College of Education, Wayne State University.
49. Sawilowsky, S. (Fall, 1989). Nonparametric tests of interaction: Practice. Research Dialogue Series, College of Education, Wayne State University.

II: Research B. Grants

Competitive

#	PI/Co-PI/ Evaluator/ Statistician	Funding Agent	Title	Amount
	2011			
1	Sawilowsky, Shlomo	College of Education Tech Mini Grant	Porting Rangen and Realpops from Fortran 90 to CUDA Fortran 2008 for the NVIDIA GPU	\$2,000
	2009-2011			
2	Field, S., P. I. Co.- P.I.'s: Boutelle, K., & Sawilowsky, S.	Merck-Horton Center for Teaching and Learning, St. George's School, Newport, RI	Maximizing Achievement in a Rigorous Academic Program: The Critical Role of Executive Function & Independent Engagement.	\$70,034
	2008-2010			
3	P. I. Field-Hoffman, S., Co-P.I.: Sawilowsky, S	Edge Foundation	Quantifying the Effectiveness of Coaching for College Students with Attention Deficit/Hyperactivity Disorder	\$303,308
	2008-2011			

4	PI: Ssemakula, M. E., Co-P.I.'s: Liao, G., Kim, K.-Y., Ellis, R. D, & Sawilowsky, S.	Division of Undergraduate Programs (DUE), National Science Foundation	Flexible Adaptation Framework for Implementing the Learning Factory - Based Manufacturing Education	\$239,991
	2007-2012			
5	P.I.: Young, R. (North Carolina State University). Co-P.I.s: Chelst, K., Royster, D. (NCSU), Edwards, T., & Norwood, K. (NCSU). Evaluator: Sawilowsky, S.	Division of Research on Learning in Formal and Informal Settings, DR-K12 Resources and Tools, National Science Foundation	Mathematics Instruction using Decision Science and Engineering (MINDSET)	\$2,388,945
	2008-2009			
6	P.I. Kanoyton, S. G., Statistician: Sawilowsky, S.	Michigan Department of Energy, Labor, & Economic Growth	King-Chavez- Parks Initiative	\$100,000
	2007-2008			
7	P.I. Kanoyton, S. G., Statistician: Sawilowsky, S.	Michigan Department of Energy, Labor, & Economic Growth	King-Chavez- Parks Initiative	\$100,000
	2004			
8	P.I.: Somers, C., Co- PI: Sawilowsky, S.	DHHS Office of Population Affairs, Center for Scientific Review, National Institutes of Health	An Experiential Teenage Pregnancy Prevention Experiment. Program extension	\$20,000
	2003			
9	P.I.: Somers, C., Co- PI: Sawilowsky, S.	DHHS Office of Population Affairs, Center for Scientific Review, National Institutes of Health	An Experiential Teenage Pregnancy Prevention Experiment	\$100,000
	2002-2004			
10	P.I.: Field, S. Co- PI's.: Hoffman, A., & Sawilowsky, S.	Office of Special Education and Rehabilitation Services, U. S. Department of Education	Research On Self- Determination In Elementary Settings	\$540,000

	1999-2001			
11	P.I.: Field, S. Co-PI's.: Hoffman, A., & Sawilowsky, S.	Office of Special Education and Rehabilitation Services, U. S. Department of Education	Promoting self-determination for students, teachers, and administrators through pre-service and in-service personnel preparation	\$600,000
	1996			
12	P.I. : Sawilowsky, S.	WSU Travel Grant	International Conference on Multiple Comparisons, Tel Aviv	\$500
	1995-1997			
13	P.I.: Field, S. Co-PI's.: Hoffman, A., & Sawilowsky, S.	Office of Special Education and Rehabilitation Services, U. S. Department of Education	Promoting Successful Outcomes Through Self-determination For At-Risk Youth with disabilities	\$450,000
14	P.I.: Field, S. Co-PI's.: Hoffman, A., & Sawilowsky, S.	Office of Special Education and Rehabilitation Services, U. S. Department of Education	Promoting Self-determination for students with disabilities: Implementation of Steps to Self-Determination	\$300,000
	1994			
15	P.I.: Sawilowsky, S.	Field Initiated Studies, U. S. Department of Education	Assessing Detroit's Model Middle School: The Evaluation of the WSU Public School	\$90,000
	1992-1995			
16	CoP.I.'s: Daeshlein, M., & Sawilowsky, S.	Office of Special Education and Rehabilitation Services, U. S. Department of Education	Peer Support For Student-Centered Transition Planning	\$387,950
	1992-1994			

17	CoP.I.'s: Sawilowsky, S., Field, S., & Hoffman, A.	Office of Special Education and Rehabilitation Services, U. S. Department of Education	Research in Self-Determination	\$413,112
	1991-1993			
18	P.I.: Sawilowsky, S.	WSU	College of Education Assessment	\$80,858
	1991			
19	P. I.: Sawilowsky, S.	WSU	Instructional Equipment Grant	\$8,950
20	P. I.: Sawilowsky, S.	College of Education	Instructional Equipment Grant	\$8,590
	1990-1993			
21	P.I.: Field, S. Co-PI's.: Hoffman, A., & Sawilowsky, S.	Office of Special Education and Rehabilitation Services, U. S. Department of Education	Skills and Knowledge For Self-Determination	\$349,350
	1987-1988			
22	P.I.: Sawilowsky, S.	WSU	Equipment Grant	\$10,000
23	P.I.: Sawilowsky, S.	WSU Graduate School	Equipment Grant	\$1,500
24	P.I.: Sawilowsky, S.	WSU College of Education	Equipment Grant	\$1,500
25	P.I.: Sawilowsky, S.	WSU College of Education	Equipment Grant	\$300
	TOTAL			\$6,566,880

III: Research

A. Books Published

1. Sawilowsky, S. (2007). Making the *Shabbos* kitchen. (With editorial assistance by Yechiel Conway.) Lakewood, NJ: Pirchei Shoshanim
2. Sawilowsky, S. S., & Fahoome, G. C. (2003). *Statistics via Monte Carlo simulation with Fortran*. Rochester Hills, MI: JMASM.

B. Chapters Published

1. Authored

3. Sawilowsky, S. S. (2007). Reflections on real data analysis. In S. Sawilowsky (Ed.) *Real data analysis*. American Educational Research Association Educational Statisticians. Washington, DC: InfoAge Publishing, p. ix-xxii.
4. Sawilowsky, S. S. (2007). ANOVA: Effect sizes, interaction vs. main effects, and a modified ANOVA table. In S. Sawilowsky (Ed.) *Real data analysis*. American Educational Research Association Educational Statisticians. Washington, DC: InfoAge Publishing, p. 191-212.
5. Sawilowsky, S. S. (2007). ANCOVA and quasi-experimental design: The Legacy of Campbell and Stanley. In S. Sawilowsky (Ed.) *Real data analysis*. American Educational Research Association Educational Statisticians. Washington, DC: InfoAge Publishing, p. 213-238.

6. Sawilowsky, S., & Spence, P. R. (2007). Controlling experiment-wise type I errors: Good advice for simultaneous and sequential hypothesis testing. In S. Sawilowsky (Ed.) *Real data analysis*. American Educational Research Association Educational Statisticians. Washington, DC: InfoAge Publishing, , p. 155-162.
7. Sawilowsky, S. (2002). Reliability as psychometrics vs datametrics. In (B. Thompson, Ed.) *Score reliability: contemporary thinking on reliability issues*. Thousand Oaks, CA: Sage.
8. Sawilowsky, S. (2002). Reliability. In (B. Thompson, Ed.) *Score reliability: contemporary thinking on reliability issues*. Thousand Oak: Sage.

C. Editorship of Books

9. Sawilowsky, S. (2007). *Real data analysis*. S. Sawilowsky (Ed.). A Volume in Quantitative Methods in Education and the Behavioral Sciences: Issues, Research, and Teaching, American Educational Research Association Educational, Educational Statisticians. Greenwich, CT: Information Age Publishing.

D. Journal Articles Published

Refereed

10. Sawilowsky, S. (2011, in press). Statistical re-analysis of Jewish priests' and non-priests' haplotypes using exact methods. *Sage Open*.
11. Parker, D. R., Field Hoffman, S., Sawilowsky, S., & Rolands, L. (2011). An examination of the effects of ADHD coaching on university students' executive functioning. *Journal of Postsecondary Education and Disability*, 24(2), 115-132..
12. Ssemakula, M., Liao, G., Ellis, D., Kim, K., Aguawa, C., & Sawilowsky, S. (2011). Manufacturing Integrated Learning Laboratory (MILL): A Framework for Determination of Core Learning Outcomes in Engineering Curricula. *International Journal of Engineering Education*, 2, 1-10.
13. Sawilowsky, S. S. (2009). Very large and huge effect sizes. *Journal of Modern Applied Statistical Methods*, 8(2), 597 – 599.
14. Solomon, S., R., & Sawilowsky, S. (2009). Impact of rank-based normalizing transformations on the accuracy of test scores. *Journal of Modern Applied Statistical Methods*, 8(2), 448 – 462.
15. Grace, T., & Sawilowsky, S. (2009). Data error prevention and cleansing: Overview for instructors of statistics and their students. *Model Assisted Statistics and Applications*, 4(4), 303-312.
16. Shulkin, B., & Sawilowsky, S. (2009). Estimating a population median with a small sample. *Model Assisted Statistics and Applications*, 4(2), 143-155.
17. Cuzzocrea, J., & Sawilowsky, S. (2009). Robustness to non-independence and power of the I test for trend in construct validity. *Journal of Modern applied Statistical Methods*, 8(1), p. 187-198.
18. Fatal-Weber, M., & Sawilowsky (2009). Comparative statistical power of the independent t, permutation t, and Wilcoxon tests. *Journal of Modern Applied Statistical Methods*, 8(1), 21-26.
19. Cooney, M. P., & Sawilowsky (2005). Process drama and actor training. *Youth Theatre Journal*, 19, 55-70.

20. Knapp, T., & Sawilowsky, S. S. (2005). Letter to the editor. *Journal of Nursing Measurement*, 12(2), 7-8.
21. Sawilowsky, S. (2005). Misconceptions leading to choosing the t test over the Wilcoxon Mann-Whitney U test for shift in location parameter. *Journal of Modern Applied Statistical Methods*, 4(2), 598-600.
22. Sawilowsky, S. (2004). A conversation with R. Clifford Blair on the occasion of his retirement. *Journal of Modern Applied Statistical Methods*, 3(2), 518-566.
23. Mason, C., Field, S., & Sawilowsky, S. S. (2004). Implementation of self-determination activities and student participation in IEPs: Practice and attitudes of educators. *Exceptional Children*, 70, 441-451.
24. Sawilowsky, S. (2004). Teaching Random Assignment: Do You Believe It Works? *Journal of Modern Applied Statistical Methods*, 3(1), 221-226.
25. Washburn-Ormachea, J.M., Hillman, S. B., & Sawilowsky, S. S. (2004). Gender and gender-role orientation differences on adolescents' coping with peer stressors. *Journal of Youth and Adolescence*, 33(1), 31-40.
26. Bridge P. D., Musial, J., Roe T., Frank, R., & Sawilowsky S. S. (2003). Measurement practices: Methods for developing content valid student examinations. *Medical Teacher*, 25, 277-284.
27. Compton, S., & Sawilowsky, S. (2003). Do not discourage the use of p-values. *Annals of Emergency Medicine*, 41(4), 584.
28. Sawilowsky, S. S. (2003). Deconstructing arguments from the case against hypothesis testing. *Journal of Modern Applied Statistical Methods*, 2(2), 467-474.
29. Sawilowsky, S. S. (2003). A different future for social and behavioral science research. *Journal of Modern Applied Statistical Methods*, 2(1), 128-132.
30. Sawilowsky, S. S. (2003). You think you've got trivials? *Journal of Modern Applied Statistical Methods*, 2(1), 218-225.
31. Sawilowsky, S. S. (2003). Trivials: The birth, sale, and final production of meta-analysis. *Journal of Modern Applied Statistical Methods*, 2(1), 242-246.
32. Sawilowsky, S. S. (2002). Fermat, Schubert, Einstein, and Behrens-Fisher: The probable difference between two means when. *Journal of Modern Applied Statistical Methods*, 1(2), 461-472.
33. Sawilowsky, S. (2002). A quick distribution-free test for trend that contributes evidence of construct validity. *Measurement and Evaluation in Counseling and Development*, 35, 78-88.
34. Somers, C. L., Johnson, S. A., & Sawilowsky, S. S. (2002). A measure for evaluating the effectiveness of teen pregnancy prevention programs. *Psychology in the Schools*, 32, 337-342.
35. Sawilowsky, S. (2002). A measure of location relative efficiency for location of a single sample. *Journal of Modern Applied Statistical Methods*, 1(1), 52-60.
36. Sawilowsky, S., & Yoon, J. (2002). The trouble with trivials ($p > .05$). *Journal of Modern Applied Statistical Methods*, 1(1), 143-144.
37. Sawilowsky, S., & Markman, B. S. (2002). Using the t test with uncommon sample sizes. *Journal of Modern Applied Statistical Methods*, 1(1), 145-146.
38. Bunner, J., & Sawilowsky, S. (2002). Alternatives to S_w in the confidence interval of the trimmed mean. *Journal of Modern Applied Statistical Methods*, 1(1), 182-187.

39. Knapp, T. R., & Sawilowsky, S. (2001). Strong arguments: Rejoinder to Thompson. *Journal of Experimental Education*, 70, 94-95.
40. Knapp, T. R., & Sawilowsky, S. (2001). Constructive criticisms of methodological and editorial practices. *Journal of Experimental Education*, 70, 65-79.
41. Headrick, T., & Sawilowsky, S. (2000). Weighted simplex procedures for determining boundary points and constants for the univariate and multivariate power methods. *Journal of Educational and Behavioral Statistics*, 25(4), 417-436.
42. Sawilowsky, S. (2000). Reliability. *Educational and Psychological Measurement*, 60, 196-200.
43. Sawilowsky, S. (2000). Psychometrics vs datametrics. *Educational and Psychological Measurement*, 60, 157-173.
44. Sawilowsky, S. (2000) Review of the rank transform in designed experiments. *Perceptual and Motor Skills*, 90, 489-497.
45. Novojenova, R., & Sawilowsky, S. (1999). Measurement of influence of the teacher's personality on students in the classroom. *Social Behavior and Personality: An International Journal*, 27, 533-543.
46. Bridge, P. K., & Sawilowsky, S. (1999) Increasing physician's awareness of the impact of statistical tests on research outcomes: Investigating the comparative power of the Wilcoxon Rank-Sum test and independent samples t-test to violations from normality. *Journal of Clinical Epidemiology*, 52, 229-236.
47. Headrick, T. C. & Sawilowsky, S. (1999). Simulating correlated nonnormal distributions: Extending the Fleishman power method. *Psychometrika*, 64, 25-36.
48. Posch, M. A., & Sawilowsky, S. S. (1999). Measuring change with 2xc designs. *Perceptual and Motor Skills*, 88, 559-560.
49. Nanna, M., & Sawilowsky, S. (1998). Analysis of Likert scale data in disability and medical rehabilitation evaluation. *Psychological Methods*, 3, 55-67.
50. Hillman, S. B., Wood, P. C., & Sawilowsky, S. (1998). The Protective-Style Questionnaire: Self-protective mechanisms among stigmatized adolescents. *Social Behavior and Personality: An International Journal*, 26, 29-38.
51. Kelley, D. L., & Sawilowsky, S. (1997). Nonparametric alternatives to the F statistic in analysis of variance. *Journal of Statistical Computation and Simulation*, 58, 343-359.
52. Bridge, P. K., & Sawilowsky, S. (1997). Revisiting the t test on ranks as an alternative to the Wilcoxon rank-sum test. *Perceptual and Motor Skills*, 85, 399-402.
53. Brown, M. T., Eisenberg, A., & Sawilowsky S. S. (1997). Traditionality and the discriminating effect of expectations of occupational success and occupational values for women within math-oriented fields. *Journal of Vocational Behavior*, 50, 418-431.
54. Wood, P. C., Hillman, S. B., & Sawilowsky, S. (1996). Locus of control, self-concept, and self-esteem among at-risk African-American adolescents. *Adolescence*, 31, 597-604.
55. Novojenova, R., & Sawilowsky, S. (1996). Unplanned imparting of teacher's personality to students in a Russian school. *Psychological Reports*, 78, 683-687.
56. Wood, P. C., Hillman, S. B., & Sawilowsky, S. (1995). Comparison of self-esteem scores: American and Indian Adolescents. *Psychological Reports*, 76, 367-370.
57. Sawilowsky, S., Kelley, D. L., Blair, R. C., & Markman, B. S. (1994). Meta-analysis and the Solomon four-group design. *Journal of Experimental Education*, 62, 361-376.

58. Hillman, S. B., Wood, P. C., & Sawilowsky, S. S. (1994). Attributional style of African-American adolescents. *Social Behavior and Personality: An International Journal*, 22, 163-176.
59. Wolf-Branigin, M., & Sawilowsky, S. (1994). Perceived importance of self-determination factors by consumers in substance-abuse treatment. *Perceptual and Motor Skills*, 79, 284-286.
60. Blair, R. C., & Sawilowsky, S. (1993). Comparison of two tests useful in situations where a treatment is expected to increase variability relative to controls. *Statistics in Medicine*, 12, 2233-2243.
61. Blair, R. C., & Sawilowsky, S. (1993). A note on the operating characteristics of the modified F test. *Biometrics*, 49, 935-939.
62. Hillman, S. B., Sawilowsky, S. S., & Becker, M. J. (1993). Effects of maternal employment patterns on adolescents' substance abuse and other risk-taking behaviors. *Journal of Child and Family Studies*, 2, 203-219.
63. Sawilowsky, S. S., and Hillman, S. B. (1992). Power of the independent samples t test under a prevalent psychometric measure distribution. *Journal of Consulting and Clinical Psychology*, 60, 240-243.
64. Sawilowsky, S. S., and Blair, R. C. (1992). A more realistic look at the robustness and type II error properties of the t test to departures from population normality. *Psychological Bulletin*, 111, 353-360.
65. Hillman, S. B., & Sawilowsky, S. S. (1992). A comparison of two grouping methods in distinguishing levels of substance use. *Journal of Clinical Child Psychology*, 21, 348-353.
66. Field, S., Hoffman, A., St. Peter, S., & Sawilowsky, S. (1992). Effects of disability labels on teachers' perceptions of students' self-determination. *Perceptual and Motor Skills*, 75, 931-934.
67. Hillman, S. B., Wood, P. C., and Sawilowsky, S. (1992). Externalization as a self-protective mechanism in a stigmatized group. *Psychological Reports*, 70, 641-642.
68. Wood, P. C., Hillman, S. B., and Sawilowsky, S. (1992). Self-concept among African-American at-risk adolescents. *Perceptual and Motor Skills*, 74, 465-466.
69. Sawilowsky, S., and Brown, M. T. (1991). On using the t test on ranks as an alternative to the Wilcoxon test. *Perceptual and Motor Skills*, 72, 860-862.
70. Hillman, S. B., and Sawilowsky, S. S. (1991). Maternal employment and early adolescent substance use. *Adolescence*, 26, 829-837.
71. Hillman, S. B., and Sawilowsky, S. S. (1990). Multidimensional differences between adolescent substance abusers and users. *Psychological Reports*, 68, 115-122.
72. Sawilowsky, S. S. (1990). Nonparametric tests of interaction in experimental design. *Review of Educational Research*, 60, 91-126.
73. Sawilowsky, S. S., Blair, R. C., and Micceri, T. (1990). REALPOPS.LIB: a PC FORTRAN library of eight real distributions in psychology and education. *Psychometrika*, 55, 729.
74. Sawilowsky, S. S., and Markman, B. S. (1990). Rejoinder to Braver and Braver. *Perceptual and Motor Skills*, 71, 424-426.
75. Sawilowsky, S. S., and Markman, B. S. (1990). Another look at the power of meta-analysis in the Solomon four-group design. *Perceptual and Motor Skills*, 70, 177-178.

76. Sawilowsky, S., Blair, R. C., and Higgins, J. J. (1989). An investigation of the type I error and power properties of the rank transform procedure in factorial ANOVA. *Journal of Educational Statistics*, 14, 255-267.
77. Blair, R. C., Sawilowsky, S. S., and Higgins, J. J. (1987). Limitations of the rank transform in factorial ANOVA. *Communications in Statistics: Computations and Simulations*, B16, 1133-1145.
78. Lavelly, C., Fisher, T., Berger, N., Bullock, D., Follman, J., Hines, C., and Sawilowsky, S. (1986). Florida Master Teacher Program: testing teacher subject matter knowledge. *Florida Journal of Educational Research*, Fall, 28, No. 1, 83-97.
79. Sawilowsky, S. (1985). A comparison of random normal scores test under the F and Chi-square distributions to the 2x2x2 ANOVA test. *Florida Journal of Educational Research*, Fall, 27, 83-97.

Invited

80. Sawilowsky, S. (2011). Statistical fallacies, misconceptions, and myths. *International Encyclopedia of Statistical Science*. NY: Springer, 1412-1417.
81. Sawilowsky, S. (2011). In defense of frequentist hypothesis testing. *International Encyclopedia of Statistical Science*. NY: Springer, 547-551..
82. Sawilowsky, S., Sawilowsky, J., & Grissom, R. J. (2011). Effect size. *International Encyclopedia of Statistical Science*. NY: Springer, 426-429.

Note: The *International Encyclopedia of Statistical Science* was nominated by the Republic of Serbia for the 2011 Nobel Peace Prize.

83. Sawilowsky, S. (2006). Jakob Bernoulli. In N. Salkind, (Ed.), *Encyclopedia of Measurement and Statistics*, 1, p. 86-87. Thousand Oaks, CA: Sage.
84. Sawilowsky, S. (2006). Construct Validity. In N. Salkind, (Ed.), *Encyclopedia of Measurement and Statistics*, 1, p. 178-181. Thousand Oaks, CA: Sage.
85. Sawilowsky, S. (2006). Journal of Modern Applied Statistical Methods. In N. Salkind, (Ed.), *Encyclopedia of Measurement and Statistics*, 2, 499-500. Thousand Oaks, CA: Sage.
86. Sawilowsky, S. (2006). KR-20 and KR-21. In N. Salkind, (Ed.), *Encyclopedia of Measurement and Statistics*, 2, 516-519. Thousand Oaks, CA: Sage.
87. Sawilowsky, S. (2006). Mann Whitney U Test. In N. Salkind, (Ed.), *Encyclopedia of Measurement and Statistics*, 2, p. 566-567. Thousand Oaks, CA: Sage.
88. Sawilowsky, S., & Shulkin, B. (2006). Andrei Andreevich Markov. In N. Salkind, (Ed.), *Encyclopedia of Measurement and Statistics*, 2, p. 567-568. Thousand Oaks, CA: Sage.
89. Sawilowsky, S. (2006). Simeon-Denis Poisson. In N. Salkind, (Ed.), *Encyclopedia of Measurement and Statistics*, 2, p. 771-772. Thousand Oaks, CA: Sage.
90. Sawilowsky, S. (2006). Wilcoxon Signed-Ranks Test. In N. Salkind, (Ed.), *Encyclopedia of Measurement and Statistics*, 3, p. 1051-1053. Thousand Oaks, CA: Sage.
91. Fahoome, G., & Sawilowsky, S. (2006). Median Test. In N. Salkind, (Ed.), *Encyclopedia of Measurement and Statistics*, 2, p. 592-595. Thousand Oaks, CA: Sage.
92. Shulkin, B., & Sawilowsky, S. (2006). Estimates of the Population Median. In N. Salkind, (Ed.), *Encyclopedia of Measurement and Statistics*, 1, p. 316-328. Thousand Oaks, CA: Sage.82.

93. Sawilowsky, S. (2005). *Tukey quick test*. In B. Everitt & D. Howell (Eds.), *Encyclopedia of Behavioral Statistics*, 4, 2069-2070. London: Wiley.
94. Sawilowsky, S., & Fahoome, G. (2005). *Friedman test*. In B. Everitt D. Howell (Eds.), *Encyclopedia of Behavioral Statistics*. London: Wiley.
95. Sawilowsky, S., & Fahoome, G. (2005). *Kruskal-Wallis test*. In B. Everitt & 64. D. Howell (Eds.), *Encyclopedia of Behavioral Statistics*. London: Wiley.
96. Sawilowsky, S., & Fahoome, G. (2005). *Page's ordered alternative test*. In B. Everitt & D. Howell (Eds.), *Encyclopedia of Behavioral Statistics*, 3, p. 1503-1504. London: Wiley.
97. Sawilowsky, S. (2005). *Sign test*. In B. Everitt & D. Howell (Eds.), *Encyclopedia of Behavioral Statistics*, 4, 1832-1833. London: Wiley.
98. Sawilowsky, S., & Fahoome, G. (2005). *Signed ranks test*. In B. Everitt & D. Howell (Eds.), *Encyclopedia of Behavioral Statistics*, 4, 1837-1838. London: Wiley.
99. Lunnenberg, C., & Sawilowsky, S. (2005). *Median test*. In B. Everitt & D. Howell (Eds.), *Encyclopedia of Behavioral Statistics*. London: Wiley.
100. Sawilowsky, S. S. (1998). Comments on using robust statistics in social and behavioral science. *British Journal of Mathematical and Statistical Psychology*, 51, 49-52.
101. Sawilowsky, S. S. (1993). Comments on using alternatives to normal theory statistics in social and behavioral science. *Canadian Psychology*, 34, 398-406.

Non-refereed

102. Sawilowsky, S. (2011, in press). *Tana Hu U'Falig, Yalkut Shoshanim* 5.
103. Sawilowsky, S. (2011, in press). An introduction to Jewish mysticism and philosophy. *Yalkut Shoshanim*, 5.
104. Sawilowsky, S. (2010). *Tefilah*. *Yalkut Shoshanim*, 4, 25-51.
105. Sawilowsky, S. (2010). *Ha'azinu*. *Yalkut Shoshanim*, 4, 52-57.
106. Sawilowsky, S. (2009). *Noach*. *Yalkut Shoshanim*, 3, 82-96.
107. Sawilowsky, S. (2008). *Balak*. *Yalkut Shoshanim*, 2, 41-48.
108. Sawilowsky, S., Schochet, C., & Cuzzocrea, J. (2007). Jacques Salomon Hadamard and the use of symbols in teaching differential calculus. *Journal of Modern Applied Statistical Methods*, 6(1), 358-367.
109. Sawilowsky, S. (2007). Mathematics in Volume 1 of *Scripta Universitatis*. *Journal of Modern Applied Statistical Methods*, 7(1), 350-354.
110. Sawilowsky, S., & Cuzzocrea, J. (2006). Joseph Liouville's 'Mathematical works of Evariste Galois'. *Journal of Modern Applied Statistical Methods*, 5(2), 589-592.
111. Cuzzocrea, J., & Sawilowsky, S. (2006). Pietro Paoli, Italian algebraist. *Journal of Modern Applied Statistical Methods*, 5(2), 593-595.
112. Sawilowsky, S. S. (2006). Statistical pronouncements V. *Journal of Modern Applied Statistical Methods*, 5(1), 282-283.
113. Sawilowsky, S. S. (2005). Statistical pronouncements IV. *Journal of Modern Applied Statistical Methods*, 4(2), 627-628.
114. Sawilowsky, S. S. (2005). Abelson's paradox and the Michelson-Morley experiment. *Journal of Modern Applied Statistical Methods*, 4(1), 352.
115. Sawilowsky, S. S. (2004). Statistical pronouncements III. *Journal of Modern Applied Statistical Methods*, 3(1), 259-260.

116. Sawilowsky, S. S. (2003). Statistical Pronouncements II. *Journal of Modern Applied Statistical Methods*, 2(2), 533-534.
117. Sawilowsky, S. S. (2003). Statistical Pronouncements. *Journal of Modern Applied statistical Methods*, 2(1), 279-280.
118. Sawilowsky, S., & Musial, J. (1998). Modeling attention deficit hyperactivity disorder as exponential decay. *The ADHD Report*, 6, 10-11.
119. Isaacson, S., & Sawilowsky, S. (1992). A note on the reliability of the problem oriented screening instrument for teenagers (POSIT). *Journal for Juvenile Justice and Detention Services*, 7, 22.

E. Papers/Abstracts Published In Conference Proceedings

1. Refereed

120. Ssemakula, M. E., Aguwa, C., Ellis, R. D., Kim K-Y., Liao, G., & Sawilowsky S. (2011). "Manufacturing integrated learning lab (MILL): A curriculum model for hands-on manufacturing education." Proceedings: American Society for Engineering Education Annual Conference & Exposition. Vancouver, BC, Canada.
121. Ssemakula, M., Liao, G., Ellis, D., Kim, K., Sawilowsky, S. (2009). Introducing a flexible adaptation framework for implementing 'learning factory' – based manufacturing education. Proceedings: American Society for Engineering Education Annual Conference. <http://soa.asee.org/paper/conference/paper-view.cfm?id=10795>.
122. Sawilowsky, S., & Shulkin, B. (May 18, 2007). "Estimating the population median." *Festschrift in honor of distinguished professor of statistics Mir Masoom Ali*. Muncie, Indiana: Ball State University, p. 256-267.
123. Headrick, T., & Sawilowsky, S. (August, 1997). Simulating correlated multivariate nonnormal distributions: Extending the Fleishman power methods. *Abstracts: Joint Statistical Meetings*, Anaheim, CA., p. 109.
124. Posch, M. A., & Sawilowsky, S. (August, 1997). Comparison of exact and asymptotic tests for the 2xc ordinal categorical layout. *Abstracts: Joint Statistical Meetings*, Anaheim, CA., p. 129.
125. Sawilowsky, S. (June 23, 1996). Controlling Experiment-wise Type I error in the Solomon Four-group design. *Proceedings of the International Conference On Multiple Comparisons*. Tel Aviv, Israel.
126. Sawilowsky, S., Kelley, D. L., & Blair, R. C. (August, 1994). Comparison of tests for interaction in the balanced 2x2x2 layout. *Joint Statistical Meetings*, Toronto, Canada.
127. Blair, R. C., & Sawilowsky, S. (August, 1993). Fixing the modified F test. *Joint Statistical Meetings*, San Francisco.
128. Blair, R. C., & Sawilowsky, S. (October, 1992). A distribution-free maximum test of location for two independent samples. *MWERA Researcher*, abstract.
129. Blair, R. C., & Sawilowsky, S. (August, 1992). Type I error and power of the modified and generalized t tests. *Joint Statistical Meetings*, Boston, p. 86.
130. Hillman, S. B., Wood, P. C., and Sawilowsky, S. S. (April, 1992). *Conference Proceedings: The Troubled Adolescent: The Nation's Concern and Its Response*. University of Wisconsin-Stout, Milwaukee, WI.
131. Hillman, S. B., Wood, P. C., and Sawilowsky, S. S. (April, 1991). Adolescent drug use and abuse. *Conference Proceedings: The Troubled Adolescent: The Nation's Concern and Its Response*. University of Wisconsin-Stout, Milwaukee, WI, 6-10.

132. Blair, R. C., & Sawilowsky, S. (October, 1991). Confounding covariates in nonrandomized studies. *MWERA Researcher*. Kent State University, abstract.
133. Sawilowsky, S., and Markman, B. (October, 1990). Guilt. *MWERA Researcher Abstracts*. Kent State University.
134. Snyder, J., and Sawilowsky, S. (October, 1990). A qualitative analysis of communication skills in the Detroit Compact. *MWERA Researcher Abstracts*. Kent State University.
135. Ogunyemi, O., and Sawilowsky, S. (October, 1989). The systemic approach to instructional design in the Detroit compact. *MWERA Researcher Abstracts*. Kent State University.
136. Sawilowsky, S. (October, 1988). Failure of the random normal scores and expected normal scores transform tests for interaction in the 2x2x2 ANOVA. *MWERA Researcher Abstracts*, Kent State University.
137. Lavelly, C., Berger, N., Bullock, D., Follman, J., Kromrey, J., & Sawilowsky, S. (1986). Causes of the criterion problem in the evaluation of effectiveness of teaching. *National Social Sciences Association Proceedings*, 1, 1-6.
138. Lavelly, C., Follman, J., and Sawilowsky, S. (November 19-21, 1986). Causes of the criterion problem in evaluation of effectiveness of teaching. *Mid-South Educational Research Association Program and Proceedings*, Fifteenth Annual Meeting, abstract.
139. Lavelly, C., Hines, C., Kromrey, J., and Sawilowsky, S. (November 19-21, 1986). Survey of characteristics of Florida master teachers. *Mid-South Educational Research Association Program and Proceedings*, Fifteenth Annual Meeting, abstract.
140. Lavelly, C., Follman, J., & Sawilowsky, S. (November 19, 1986). Expertise in teaching: expert pedagogues. *Mid-South Educational Research Association Program and Proceedings*, Fifteenth Annual Meeting, abstract.
141. Sawilowsky, S., and Follman, J. (November 19-21, 1986). Teacher merit pay plan 'fresh' ideas. *Mid-South Educational Research Association Program and Proceedings*, Fifteenth Annual Meeting, abstract, 123-124.
142. Lavelly, C., Ward, A., Berger, N., Bullock, D., Follman, J., Hines, C., and Sawilowsky, S. (1986). Teacher subject area examinations in the Florida Teacher Merit Pay program. *Proceedings: Association of Teacher Educators*, 76, 25-26.
143. Lavelly, C., Bullock, D., Follman, J., Hall, B., Hines, C., Sawilowsky, S., and Ward, A. (November 6-8, 1985). Teacher subject area examinations in the Florida teacher merit pay plan. *Mid-South Educational Research Association Program and Proceedings*, abstract.

G. Abstracts Published in Academic Journals

144. Roder, B. J., & Sgan (M. L.) (Eds.) (2004). *Infants to adolescents: Research update: A digest of current research in the field of child and adolescent development*, 5(2), p. 5. (Washburn-Ormachea, J.M., Hillman, S. B., & Sawilowsky, S. S. (2004). Gender and gender-role orientation differences on adolescents' coping with peer stressors. *Journal of Youth and Adolescence*, 33(1), 31-40.)

K. Instructional Materials Formally Published

1. Textbooks

145. Sawilowsky, S. S., & Fahoome, G. F. (2003). CD to accompany *Statistics through Monte Carlo simulation with Fortran*. Rochester Hills, MI: JMASM.

N. Other Scholarly Work (Published)

Software

146. Fahoome, G., & Sawilowsky, S. S. (2001). Rangen 2.0. College of Education, Wayne State University.
147. Sawilowsky, S., & Blair, R. C. (1987). RANGENPC 1.0. College of Education, Wayne State University.

Standardized Tests Published

148. Keene, K., Edwards, T., Pugalee, D., Norde, I., Scott, B., & Sawilowsky, S. (2011). *Math Attitude Survey*. Raleigh, NC: North Carolina State University.
149. Keene, K., Edwards, T., Pugalee, D., Norde, I., Scott, B., & Sawilowsky, S. (2011). *Problem Solving Assessment*. Raleigh, NC: North Carolina State University.
150. Field, S., Parker, D., Sawilowsky, S., & Rolands, L. (2010). *College Well Being*. Detroit, MI: College of Education, Wayne State University.
151. Ssemakula, M. E., Liao, G., Kim, K-Y, Aguwa, C, Darin, E., Sawilowsky, S., & consortium partners (New Mexico State University, Prairie View A&M University, & Macomb Community College). (2010). *Manufacturing Integrated Learning Lab (MILL) Pretest*. Detroit, MI: College of Manufacturing Engineering, Wayne State University.
152. Ssemakula, M. E., Liao, G., Kim, K-Y, Aguwa, C, Darin, E., & Sawilowsky, S. & consortium partners (New Mexico State University, Prairie View A&M University, & Macomb Community College). (2010). *Manufacturing Integrated Learning Lab (MILL) Posttest*. College of Manufacturing Engineering. Detroit, MI: College of Manufacturing Engineering, Wayne State University.
153. Field, S., Hoffman, A., & Sawilowsky, S. (2006). *Self-Determination Knowledge Scale, Form A and Form B, revised*. Austin, Texas: Pro-Ed.
154. Field, S., Hoffman, A., & Sawilowsky, S. (2001). *Self-Determination Student Self-Perception Scale (SDSSPS)*. College of Education, Wayne State University.
155. Field, S., Hoffman, A., & Sawilowsky, S. (1995). *Self-Determination Knowledge Scale, Form A and Form B*. Austin, Texas: Pro-Ed.
156. Field, S., Hoffman, A., & Sawilowsky, S. (1994). *Self-Determination Behavioral Observation Checklist (SDOC), revised*. College of Education, Wayne State University.
157. Field, S., Hoffman, A., & Sawilowsky, S. (1994). *Self-Determination Knowledge Scale (SDKS), pretest*. College of Education, Wayne State University.
158. Field, S., Hoffman, A., & Sawilowsky, S. (1994). *Self-Determination Knowledge Scale (SDKS), posttest*. College of Education, Wayne State University.
159. Field, S., Hoffman, A., & Sawilowsky, S. (1994). *Self-Determination Parent Perception Scale (SDPPS)*. College of Education, Wayne State University.
160. Field, S., Hoffman, A., & Sawilowsky, S. (1994). *Self-Determination Teacher Perception Scale (SDTPS)*. College of Education, Wayne State University.
161. Field, S., Hoffman, A., & Sawilowsky, S. (1994). *Self-Determination Student Scale (SDSS)*. College of Education, Wayne State University.
162. Field, S., Hoffman, A., & Sawilowsky, S. (1992). *Self-Determination Scale (SDS): Form A, Form B*. Developmental Disabilities Institute, Wayne State University.
163. Field, S., Hoffman, A., Sawilowsky, S., & St. Peter (1991). *Self-Determination Behavioral Observation Checklist (SDOC)*. Developmental Disabilities Institute, Wayne State University.

164. Lavelly, C., Berger, N., Bullock, D., Follman, J., Sawilowsky S., & Staff of Institute For Instructional Research and Practice (1986). Subject Area Tests for the Florida Master Teacher Program: *Art Education*. Published by Educational Testing Service, Princeton, N.J. for the Florida State Department of Education.
165. Lavelly, C., Berger, N., Bullock, D., Follman, J., Sawilowsky S., & Staff of Institute For Instructional Research and Practice (1986). Subject Area Tests for the Florida Master Teacher Program: *Home Economics*. Published by Educational Testing Service, Princeton, N.J. for the Florida State Department of Education.
166. Lavelly, C., Berger, N., Bullock, D., Follman, J., Sawilowsky S., & Staff of Institute For Instructional Research and Practice (1986). Subject Area Tests for the Florida Master Teacher Program: *Reading*. Published by Educational Testing Service, Princeton, N.J. for the Florida State Department of Education.
167. Lavelly, C., Berger, N., Bullock, D., Follman, J., Sawilowsky S., & Staff of Institute For Instructional Research and Practice (1986). Subject Area Tests for the Florida Master Teacher Program:. Published by Educational Testing Service, Princeton, N.J. for the Florida State Department of Education: *School Psychology*. Published by Educational Testing Service, Princeton, N.J. for the Florida State Department of Education.
168. Lavelly, C., Berger, N., Bullock, D., Follman, J., Sawilowsky S., & Staff of Institute For Instructional Research and Practice (1986). Subject Area Tests for the Florida Master Teacher Program: *Speech and Language Disorders*. Published by Educational Testing Service, Princeton, N.J. for the Florida State Department of Education.
169. Lavelly, C., Berger, N., Bullock, D., Follman, J., Sawilowsky, S., & Staff of Institute For Instructional Research and Practice (1986). Subject Area Tests for the Florida Master Teacher Program; Alternate Forms for *Biology*. Published by Educational Testing Service, Princeton, N.J. for the Florida Department of Education.
170. Lavelly, C., Berger, N., Bullock, D., Follman, J., Sawilowsky, S., & Staff of Institute For Instructional Research and Practice (1986). Subject Area Tests for the Florida Master Teacher Program; Alternate Forms for *Business Education*. Published by Educational Testing Service, Princeton, N.J. for the Florida Department of Education.
171. Lavelly, C., Berger, N., Bullock, D., Follman, J., Sawilowsky, S., & Staff of Institute For Instructional Research and Practice (1986). Subject Area Tests for the Florida Master Teacher Program; Alternate Forms for *Chemistry*. Published by Educational Testing Service, Princeton, N.J. for the Florida Department of Education.
172. Lavelly, C., Berger, N., Bullock, D., Follman, J., Sawilowsky, S., & Staff of Institute For Instructional Research and Practice (1986). Subject Area Tests for the Florida Master Teacher Program; Alternate Forms for *Earth Science*. Published by Educational Testing Service, Princeton, N.J. for the Florida Department of Education.
173. Lavelly, C., Berger, N., Bullock, D., Follman, J., Sawilowsky, S., & Staff of Institute For Instructional Research and Practice (1986). Subject Area Tests for the Florida Master Teacher Program; Alternate Forms for *Elementary Education*. Published by Educational Testing Service, Princeton, N.J. for the Florida Department of Education.
174. Lavelly, C., Berger, N., Bullock, D., Follman, J., Sawilowsky, S., & Staff of Institute For Instructional Research and Practice (1986). Subject Area Tests for the Florida Master Teacher Program; Alternate Forms for *Emotionally Handicapped*. Published by Educational Testing Service, Princeton, N.J. for the Florida Department of Education.

175. Lavelly, C., Berger, N., Bullock, D., Follman, J., Sawilowsky, S., & Staff of Institute For Instructional Research and Practice (1986). Subject Area Tests for the Florida Master Teacher Program; Alternate Forms for *English*. Published by Educational Testing Service, Princeton, N.J. for the Florida Department of Education.
176. Lavelly, C., Berger, N., Bullock, D., Follman, J., Sawilowsky, S., & Staff of Institute For Instructional Research and Practice (1986). Subject Area Tests for the Florida Master Teacher Program; Alternate Forms for *General Science*. Published by Educational Testing Service, Princeton, N.J. for the Florida Department of Education.
177. Lavelly, C., Berger, N., Bullock, D., Follman, J., Sawilowsky, S., & Staff of Institute For Instructional Research and Practice (1986). Subject Area Tests for the Florida Master Teacher Program; Alternate Forms for *Gifted Education*. Published by Educational Testing Service, Princeton, N.J. for the Florida Department of Education.
178. Lavelly, C., Berger, N., Bullock, D., Follman, J., Sawilowsky, S., & Staff of Institute For Instructional Research and Practice (1986). Subject Area Tests for the Florida Master Teacher Program; Alternate Forms for: *Mathematics*. Published by Educational Testing Service, Princeton, N.J. for the Florida Department of Education.
179. Lavelly, C., Berger, N., Bullock, D., Follman, J., Sawilowsky, S., & Staff of Institute For Instructional Research and Practice (1986). Subject Area Tests for the Florida Master Teacher Program; Alternate Forms for *Mentally Handicapped*. Published by Educational Testing Service, Princeton, N.J. for the Florida Department of Education.
180. Lavelly, C., Berger, N., Bullock, D., Follman, J., Sawilowsky, S., & Staff of Institute For Instructional Research and Practice (1986). Subject Area Tests for the Florida Master Teacher Program; Alternate Forms for *Music*. Published by Educational Testing Service, Princeton, N.J. for the Florida Department of Education.
181. Lavelly, C., Berger, N., Bullock, D., Follman, J., Sawilowsky, S., & Staff of Institute For Instructional Research and Practice (1986). Subject Area Tests for the Florida Master Teacher Program; Alternate Forms for *Physics*. Published by Educational Testing Service, Princeton, N.J. for the Florida Department of Education.
182. Lavelly, C., Berger, N., Bullock, D., Follman, J., Sawilowsky, S., & Staff of Institute For Instructional Research and Practice (1986). Subject Area Tests for the Florida Master Teacher Program; Alternate Forms for *Spanish*. Published by Educational Testing Service, Princeton, N.J. for the Florida Department of Education.
183. Lavelly, C., Berger, N., Bullock, D., Follman, J., Sawilowsky, S., & Staff of Institute For Instructional Research and Practice (1986). Subject Area Tests for the Florida Master Teacher Program; Alternate Forms for *Specific Learning Disabilities*. Published by Educational Testing Service, Princeton, N.J. for the Florida Department of Education.

Criterion-Referenced Tests Published

184. Sawilowsky, S., Field, Sharon, Hoffman, A., Sinelli, N., & Bloomingstein-Bott, L. (2011). *Weinberg Village Self-determination Teacher Perception Scale*. West Bloomfield, MI: Friendship Circle.
185. Sinelli, N., Bloomingstein-Bott, L., & Sawilowsky, S. (2008). *Weinberg Village Behavioral Observation Checklist Battery: Bank, Bicycle, Ice cream stand, Library, Medical Office, Movies, Pet Store, Popcorn Stand, Salon, Savon Drugs, Traffic, Workshop*. West Bloomfield, MI: Friendship Circle.

186. Sinelli, N., Bloomingstein-Bott, L., & Sawilowsky, S. (2008). *Wineberg Village Teacher's Survey*. West Bloomfield, MI: Friendship Circle.
187. Sinelli, N., Bloomingstein-Bott, L., & Sawilowsky, S. (2008). *Wineberg Village Parents's Survey*. West Bloomfield, MI: Friendship Circle.
188. Sawilowsky, S., & faculty of College of Education, Wayne State University (1991). *College Assessment Test*. College of Education, Wayne State University.
189. Evans, D., Snyder, J. A., Ogunyemi, O. A., Sawilowsky, S. S., & Staff of Detroit Compact. (1988). *Detroit Compact High School Math Test Form A (Pretest)*. College of Education, Wayne State University.
190. Evans, D., Snyder, J. A., Ogunyemi, O. A., Sawilowsky, S. S., & Staff of Detroit Compact. (1988). *Detroit Compact High School Math Test Form B (Posttest)*. College of Education, Wayne State University.

Educational Resources Information Center (ERIC)

191. Hillman, S. B., & Sawilowsky, S. (1992). Profiles of adolescent substance abstainers, users, and abusers. CG 023 770.
192. Sawilowsky, S., & Hillman, S. B. (1991). Sample size tables, t test, and a prevalent psychometric distribution. ED 336 411.
193. Blair, R. C., & Sawilowsky, S. (1991). Confounding covariates in nonrandomized studies. ED 336 411.
194. Sawilowsky, S., & Blair, R. C. (1991/1989). An investigation of the Type I error and power properties the rank transform statistic. ED 322 149.
195. Hillman, S. B., Sawilowsky, S. S., Becker, M. J., & Ogilvie, L. A. (1990). Effects of maternal employment on adolescent substance use. ED 322 412
196. Hillman, S. B., Becker, M. J., Ogilvie, L. A., & Sawilowsky, S. (1990). Survey results of use of drugs and alcohol among high school students. ED 321 176
197. Sawilowsky, S., & Markman, B. (1989). Guilt. ED 316 557.
198. Sawilowsky, S., & Markman, B. (1988). Another look at the power of meta-analysis in the Solomon four-group design. ED 316 556.

Technical Reports

199. Field, S., Parker, D., Sawilowsky, S., & Rolands, L. (2010). *Quantifying the Effectiveness of Coaching for College Students with Attention Deficit/Hyperactivity Disorder*. Edge Foundation, Seattle, WA. <http://www.edgefoundation.org/wp-content/uploads/2010/11/Edge-Report-11-10-exec-summary.pdf>, 231 pp.
200. Field, S., Blumenstein-Bott, L., Sinelli, N., & Sawilowsky, S. (2008). *Acquisition of life skills in a simulated town for students with disabilities*. West Bloomfield, MI: Friendship Circle, 18 pp.
201. Somers, C., & Sawilowsky, S. (2004). *An Experiential Teenage Pregnancy Prevention Experiment Final Report*. College of Education, Wayne State University.
202. Field, S., Hoffman, A., & Sawilowsky, S. (2004). *Research On Self-Determination In Elementary Settings Final Report*. College of Education, Wayne State University.
203. Field, S., Hoffman, A., & Sawilowsky, S. (2001). *Promoting self-determination for students, teachers, and administrators through pre-service and in-service personnel preparation Final Report*. College of Education, Wayne State University.

204. Field, S., Hoffman, A., & Sawilowsky, S. (1996). *Research in Self-Determination Final Report*. College of Education, Wayne State University. 27 pp.
205. Hoffman, A., Field, S., & Sawilowsky, S. (1996). *Self-determination Assessment Battery User's Guide*. College of Education, Wayne State University. 77 pp.
206. Jannis, J., Colombo, M., & Sawilowsky, S. (April, 1996). *Lessons in school reform: An evaluation of an university operated charter middle school*. College of Urban, Labor, and Metropolitan Affairs, Wayne State University, 62 pp.
207. Sawilowsky, S. (1995). *1994 UPS MEAP Report. University Public School Evaluation Formative Report Series Addendum 3a*. College of Urban, Labor, & Metropolitan Affairs, Wayne State University. 10 pp.
208. Sawilowsky, S. (1995). *Parent Assessment: UPS 1993-1994. University Public School Evaluation Formative Report Series 6*. College of Urban, Labor, & Metropolitan Affairs, Wayne State University. 12 pp.
209. Field, S., Hoffman, A., St. Peter, S., & Sawilowsky, S. (1994). *Skills and knowledge for self-determination: Final Research Report*. College of Education, Wayne State University.
210. Evans, D., Snyder, J. A., Sawilowsky, S. S., & Staff of the Detroit Compact Initial Project. (1990). *The Detroit Compact: 1988-1989 academic year and professional development: Part II*. College of Education, Wayne State University.
211. Evans, D., Snyder, J. A., Ogunyemi, O. A., Sawilowsky, S. S., & Staff of the Detroit Compact. (1989). *The Detroit compact: initial project. Part I: curriculum development and summer pilot program*. Detroit Compact, College of Education, Wayne State University: Detroit MI.
212. Institute For Instructional Research and Practice (1986). *Editorial manual for item and test development*. University of South Florida.
213. Lavelly, C., Berger, N., Bullock, D., Sawilowsky, S., & Staff of Institute For Instructional Research and Practice (1986). *The Florida master teacher subject area examination - scoring and reporting procedures: 1985-1986*. Florida Department of Education.
214. Sawilowsky, S., & Staff of Institute For Instructional Research and Practice. (1986). *Analyses of the 1985 Florida master teacher data tapes*. University of South Florida.
215. Sawilowsky, S., & Staff of Institute For Instructional Research and Practice.(1985). *Test reliability and the development of the Content Area Teacher Tests (CATT)*. University of South Florida.
216. Sawilowsky, S., & Staff of Institute For Instructional Research and Practice. (1985). *Effects of deleting items on the Content Area Teacher Tests (CATT)*. University of South Florida.
217. Sawilowsky, S., & Staff of Institute For Instructional Research and Practice. (1985) *Content validity and the test development process* . University of South Florida.
218. Lavelly, C., Berger, N., Bullock, D., Ward, A., Sawilowsky, S., & Staff of Institute For Instructional Research and Practice (1985). *The Florida master teacher subject area examination - scoring and reporting procedures: 1984-1985*. Florida Department of Education.
219. Lavelly, C., Berger, N., Bullock, D., Ward, A., Sawilowsky, S., Follman, J., Hall, B., Hines, C., Caldwell, E., & Staff of Institute For Instructional Research and Practice (1985). *The Florida master teacher program: development of the content area tests. Technical report: 1984-85*. Florida Department of Education.

L. Papers Presented

1. Invited and/or Refereed Internationally or Nationally:

a. Invited

220. Sawilowsky, S. (2009, August 17). *Post 1980 Monte Carlo contributions to real data analysis: Estimation, inference, and application*. Plenary invited presentation "Guide for the Perplexed: Toward Healthier Statistical Analyses Series." 117th annual conference of the American Psychological Association, Toronto, Canada.
221. Sawilowsky, S., & Shulkin, B. (May 18, 2007). "New small sample estimators of the population median." Invited paper presented at the Statistics Conference in Honor of George and Frances Ball Distinguished Professor of Statistics Mir Masoom Ali on the Occasion of his Retirement, Ball State University, Muncie, Indiana.
222. Blair, R. C., & Sawilowsky, S. (April 6, 1987). Insights into the lackluster performance of the rank transform in testing for higher order interactions in factorial ANOVA. Invited Lecturer Series, Department of Statistics, Kansas State University, Manhattan, Kansas.

b. Refereed

223. Lance, M., & Sawilowsky, S. (2011). Type I and II Errors for improved critical values for the Winsorized t-test. Annual meeting of the American Statistical Association, Miami, FL.
224. Farrell-Singleton, P., & Sawilowsky, S. (2011). Improved critical values for the two independent samples Winsorized t-test. Annual meeting of the American Statistical Association, Miami, FL.
225. Ssemakula, M., Liao, G., Ellis, D., Kim, K., & Sawilowsky, S. (March, 2011). Manufacturing integrated learning lab (MILL): A curriculum model for hands-on manufacturing education. Vancouver, BC, Canada.
226. O'Connell, M. B., Salinitri, F. D., Smith, J. M., Garwood, C., Lehr, V. T., Sipe, L. v., Sawilowsky, S. S. (July, 2011). Standardized assessment of observed structured clinical examinations. Annual meeting of the American Association of Colleges of Pharmacy. San Antonio, TX.
227. Ssemakula, M., Liao, G., Ellis, D., Kim, K., & Sawilowsky, S. (June, 2009). Introducing a flexible adaptation framework for implementing 'learning factory' – based manufacturing education. American Society for Engineering Education Annual Conference, Austin, TX.
228. Solomon, S., & Sawilowsky, S. (April, 2009). A Comparison of Ranking Methods for Normalizing Scores. Paper to be presented at the annual conference of the American Educational Research Association, SIG/Educational Statisticians. San Diego, CA.
229. Shulkin, B., & Sawilowsky, S. (August, 2006). Estimating the population median from a small sample. Paper presented at the annual conference of the American Statistical Association, Seattle, WA.
230. Sawilowsky, S. S. (August, 2003). A different future for social and behavioral science research. Annual Meeting of the American Psychological Association.
231. Sawilowsky, S., & Yoon, J. (August 22, 2001). The trouble with trivials ($p > .05$). 54rd Session of the International Statistical Institute. Seoul, Republic of Korea.

232. Sawilowsky, S., & Lee, K. (April, 2001). The probable difference between two means when $\sigma_1 \neq \sigma_2$. Annual Meeting of the American Educational Research Association, SIG/Educational Statisticians. Seattle, WA.
233. Headrick, T., & Sawilowsky, S. (April, 2000). Robustness and power of the factorial RT ANCOVA. Annual Meeting of the American Educational Research Association, SIG/Educational Statisticians. New Orleans, LA.
234. Fahoome, G., & Sawilowsky, S. (April, 2000). Twenty nonparametric statistics. Annual meeting of the American Educational Research Association, SIG/Educational Statisticians, New Orleans, LA.
235. Sawilowsky, S. (April, 1999). A quick distribution-free test for trend that contributes evidence of construct validity. Annual meeting of the National Conference on Measurement in Education, Montreal, Canada.
236. Sawilowsky, S. (April, 1999). A measure of relative efficiency for location of a single sample. Annual meeting of the American Educational Research Association, SIG/Educational Statisticians, Montreal, Canada.
237. Sawilowsky, S., & Rothenberg, L. (April, 1999). Teaching random assignment: Do you believe it works? Annual meeting of the American Educational Research Association, SIG/Educational Statisticians, Montreal, Canada.
238. Sawilowsky S. (January, 1999). A quick distribution-free test for trend that contributes evidence of construct validity. Statistics Symposium on Selected Topics in Nonparametric Statistics, Gainesville, FL.
239. Headrick, T., & Sawilowsky, S. (January, 1999). Type I error and power of the rank transform factorial ANCOVA. Statistics Symposium on Selected Topics in Nonparametric Statistics. Gainesville, FL.
240. Headrick, T., & Sawilowsky, S. (January, 1999). The best test for interaction in factorial ANOVA and ANCOVA. Statistics Symposium on Selected Topics in Nonparametric Statistics. Gainesville, FL.
241. Headrick, T., & Sawilowsky, S. (August, 1998). Simulating correlated multivariate nonnormal distributions: Extending the Fleishman Procedure. Joint Statistical Meetings, American Statistical Association. Anaheim, CA.
242. Headrick, T., & Sawilowsky, S. (April, 1998). Weighted simplex procedures for determining boundary points and constants for the power method. Annual Meeting of the American Educational Research Association, SIG/Educational Statisticians, San Diego, CA.
243. Headrick, T., & Sawilowsky, S. (April, 1998). Constants and boundary points for the Fleishman power method. Annual Meeting of the American Educational Research Association, SIG/Educational Statisticians, San Diego, CA.
244. Posch, M., & Sawilowsky, S. (August, 1997). A comparison of exact tests for the analysis of sparse contingency tables. Joint Statistical Meetings, American Statistical Association.
245. Sawilowsky, S. S. (April, 1997). Quasi-experimental design. American Educational Research Association, Division D, Measurement and Research Methodology; and SIG/Educational Statisticians, Chicago, IL.

246. Hillman, S. B., Wood, P. C., & Sawilowsky, S. (April, 1997). Self-protective mechanisms of academically at-risk African-American adolescents. American Educational Research Association, Division G; Division E; SIG/ Bilingual Education Research, Chicago, IL.
247. Sawilowsky, S. S. (June, 1996). Controlling experiment-wise type I error of meta-analysis in the Solomon four-group design. International Conference on Multiple Comparison Procedures. Tel Aviv, Israel.
248. Sawilowsky, S. S., Bridge, P., & Nanna, M. (August, 1996). Comparison of parametric and nonparametric statistics with real data sets. Annual Meeting of the American Psychological Association, Division 5, Measurement and Evaluation. Toronto, Canada.
249. Sawilowsky, S. S., Hoffman, A., & Field, S. (August, 1996). Development and analysis of a self-determination test battery. Annual Meeting of the American Psychological Association, Division 5, Measurement and Evaluation. Toronto, Canada.
250. Hillman, S. B., Wood, P. C., & Sawilowsky, S. S. (August, 1996). Self-protective mechanisms among stigmatized adolescents. Annual Meeting of the American Psychological Association, Division 45, The Society for the Psychological Study of Ethnic Minority Issues. Toronto, Canada.
251. Sawilowsky, S. S. (April, 1996) Encyclopedia of educational and psychological effect sizes. Annual Meeting of the American Educational Research Association, Division D, Measurement and Research Methodology, NY, NY.
252. Field, S., Hoffman, A., & Sawilowsky, S. (November, 1995). Promoting self-determination for youth with severe behavior disorders. 19th Annual Meeting of the Teacher Educators for Children with Behavioral Disorders. Tempe, AZ.
253. Kelley, D. L., & Sawilowsky, S. (April, 1995). Comparison of ANOVA, Blair-Sawilowsky, McSweeney, and Harwell-Serlin tests for interaction in the 2x2x2 layout. American Educational Research Association, SIG/Educational Statisticians. San Francisco, CA.
254. Assel, M., & Sawilowsky, S. (April, 1995). Suggestopedia and academic achievement. American Educational Research Association, SIG/Multilingual Education. San Francisco, CA.
255. Sawilowsky, S., Kelley, D. L., & Blair, R. C. (August, 1994). Comparison of parametric and nonparametric tests of interaction in the 2x2x2 ANOVA layout. American Statistical Association, Joint Statistical Meetings, Toronto, Canada.
256. Sawilowsky, S., Kelley, D. L., & Markman, B. S. (April, 1994). Comparative power of meta-analysis in the Solomon four-group design. Annual Meeting of the American Educational Research Association, Division D, Measurement and Research Methodology, New Orleans, LA.
257. Blair, R. C., & Sawilowsky, S. (April, 1994). Fixing the modified F test: two new approximate randomization tests. Annual Meeting of the American Educational Research Association, SIG/Educational Statisticians, New Orleans, LA.
258. Blair, R. C., & Sawilowsky, S. S. (August, 1993). Fixing the modified F test. Joint Statistical Meetings, Annual Meeting of the American Statistical Association, Division A, Biometrics, San Francisco, CA.
259. Sullivan, P., Sawilowsky, S., Lewis, C. M., & Eng, A. M. (February 19, 1993). Yalom factor research: threats to internal validity. American Group Psychotherapy Association.

260. Field, S., Hoffman, A., & Sawilowsky, S. (November, 1992). Skills for self-determination. TASH: The Association for Persons with Severe Handicaps, San Francisco, CA.
261. Hillman, S., Wood, P. C., & Sawilowsky, S. (August, 1992). Three studies supporting self-protective mechanisms in stigmatized minority adolescents. Annual Meeting of the American Psychological Association, Division 45, The Society for the Psychological Study of Ethnic Minority Issues, Washington, D. C.
262. Field, S., Hoffman, A., St. Peter, S., & Sawilowsky, S. (August, 1992). Disability labels effects on perceptions and observations of self-determination. American Psychological Association, Division 33, Mental Retardation, Washington, D. C.
263. Blair, R. C., & Sawilowsky, S. (August, 1992). Type I error and power properties of the O'Brien and Brownie-Boos-Hughes Oliver t tests. Joint Statistical Meetings, Annual Meeting of the American Statistical Association, Division A, Biometrics, Boston, MA.
264. Blair, R. C., & Sawilowsky, S. (April, 1992). A comparison of the generalized and modified t tests. Annual Meeting of the American Educational Research Association, SIG/ Educational Statisticians, San Francisco, CA.
265. Sawilowsky, S., & Hillman, S. B. (August, 1991). Sample size tables, t -test, and a prevalent psychometric distribution. Annual Meeting of the American Psychological Association, Division 5, Evaluation, Measurement, and Statistics, San Francisco, CA.
266. Hillman, S. B., & Sawilowsky, S. (August, 1991). Profiles of adolescent substance absters, users, and abusers. Annual Meeting of the American Psychological Association, Division 12, Clinical Psychology, San Francisco, CA.
267. Sawilowsky, S., & Blair, R. C. (April, 1991). A more realistic look at the robustness of the independent and dependent samples t tests to departures from population normality. Annual Meeting of the American Educational Research Association, SIG/Educational Statisticians, Chicago, IL.
268. Sawilowsky, S., Baerg, P., Boza, L. A. D., Kallmannsohn, M., Spencer, B., & Vollhardt, L. T. (April, 1991). Power analysis of the Brownie-Boos-Oliver t test for expected increases in treatment variability. Annual Meeting of the American Educational Research Association, SIG/Educational Statisticians, Chicago, IL.
269. Hillman, S. B., & Sawilowsky, S. (April, 1991). Substance use in a high school: A profile of abusers and users. Annual Meeting of the American Educational Research Association, SIG/Adolescence, Chicago, IL.
270. Hillman, S. B., Wood, P. C., & Sawilowsky, S. S. (April 10, 1991). Adolescent drug use and abuse. National Conference of The Troubled Adolescent: The Nation's Concern and Its Response, Milwaukee, WI.
271. Hillman, S. B., Sawilowsky, S., Becker, M. J., & Ogilvie, L. A. (August, 1990). Effects of maternal Employment on Adolescent Substance Use. Annual Meeting of the American Psychological Association, Division 35, Psychology of Women, Boston, MA.
272. Sawilowsky, S., & Blair, R. C. (April, 1990). A test for interaction based on the rank transform. Annual Meeting of the American Educational Research Association, SIG/Educational Statisticians, Boston, MA.
273. Sawilowsky, S., & Markman, B. (April, 1990). Another look at the power of meta-analysis in the Solomon four-group design. Annual Meeting of the American Educational Research Association, Division D, Measurement and Research Methodology, Boston, MA.

274. Ogunyemi, O., & Sawilowsky, S. (January, 1990). An application of the systemic approach to instructional design. Annual Meeting of the Association for Educational Communications and Technology, Showcase of Achievement, Anaheim, CA.
275. Sawilowsky, S. (March 27, 1989). Rank transformation: the bridge is falling down. Annual Meeting of the American Educational Research Association, SIG/Educational Statisticians. San Francisco, CA.
276. Sawilowsky, S. (April, 1988). Limitations of the rank transform in analysis of variance. Annual Meeting of the American Educational Research Association. SIG/Educational Statisticians, New Orleans, LA.
277. Sawilowsky, S. (April, 1988). Moral education in public schooling: overt pedagogy or covert curricula? Annual Meeting of the American Educational Research Association, SIG/Religion in Education, New Orleans, LA.
278. Lavelly, L., Berger, N., Bullock, D., Follman, J., and Sawilowsky, S. (April 23, 1987). Expertise in teaching: expert pedagogues. Annual Meeting of the American Educational Research Association, Expertise in Teaching: The Role of Cognition, SIG/Teacher and Student Cognitions, Washington, D.C.
279. Sawilowsky, S., & Blair, R. C. (April 21, 1987). Properties of the rank transformation statistic. Annual Meeting of the American Educational Research Association. Distinguished Papers From the State and Regional Research Associations: Eleventh Annual Session, SIG/State and Regional Research Associations, Washington, D. C.
280. Sawilowsky, S., & Blair, R. C. (April 21, 1987). Type I error and power properties of the rank transform procedure in factorial ANOVA. Annual Meeting of the American Educational Research Association. Empirical Studies in Statistics, SIG/Educational Statisticians, Washington, D. C.
281. Lavelly, C., Berger, N., Bullock, D., Follman, J., Kromrey, J., & Sawilowsky, S. (March 5, 1987). Causes of the criterion problem in evaluation of effectiveness of teaching. Division G, Social Context of Education, American Education Research Association, Atlanta, GA.
282. Lavelly, C., Berger, N., Bullock, D., Follman, J., Kromrey, J., & Sawilowsky, S. (March 5, 1987). Teacher merit pay plan "fresh" ideas. American Education Research Association, Division G, Social Context of Education, Atlanta, GA.
283. Lavelly, C., Berger, N., Bullock, D., Follman, J., Kromrey, J., & Sawilowsky, S. (March 5, 1987). Role, duties, etc., of lead teachers in career ladder programs. American Educational Research Association, Division G, Social Context of Education, Atlanta, GA.
284. Lavelly, C., Berger, N., Bullock, D., Follman, J., Kromrey, J., & Sawilowsky, S. (February 17, 1987). Teacher merit pay plan "fresh" ideas. Association of Teacher Educators, Houston, Texas.
285. Lavelly, C., Berger, N., Bullock, D., Follman, J., Kromrey, J., & Sawilowsky, S. (February 16, 1987). Causes of the criterion problem in evaluation of effectiveness of teaching. Association of Teacher Educators, Houston, Texas.
286. Lavelly, C., Berger, N., Bullock, D., Follman, J., & Sawilowsky, S. (November 1, 1986). Causes of the criterion problem in teaching effectiveness. National Social Science Association, Tampa, FL.

287. Sawilowsky, S. (October 10, 1986). Teacher subject matter examinations in the Florida teacher merit pay plan. Society of Educators and Scholars, Eleventh Annual Conference, Bellarmine College, Louisville, Kentucky.
288. Lavelly, C., & Sawilowsky, S. (August 6, 1986). Development of teacher subject matter examinations in the Florida Teacher Merit Pay Plan. Association of Teacher Educators 1986 Summer Workshop, Northern Arizona University, Flagstaff, AZ.
289. Bullock, D., Lavelly, C., & Sawilowsky, S. (March 31, 1986). Subject matter test development for merit pay. Council for Exceptional Education, New Orleans, LA.
290. Sawilowsky, S., Hines, C., & Hall, B. (February 26, 1986). Testing teachers for merit pay. American Association of Colleges of Teacher Education, Chicago, IL.
291. Berger, N., Lavelly, C., Sawilowsky, S., & Ward, A. (October 5, 1985). Teacher subject area examinations in the Florida Teacher Merit Pay Program. Tenth National Conference of the Society of Educators and Scholars, Hackensack, NJ.

2. Invited and/or Refereed Locally/Regionally

a. Invited

292. Sawilowsky, S. (2002). Fermat, Schubert, Einstein, and Behrens-Fisher: The probable difference between two means when $\sigma_1 \neq \sigma_2$. University of Central Michigan Math Department Colloquium, Mt. Pleasant, MI.
293. Sawilowsky, S. (Winter, 1998). Reading the ANOVA table - top down or bottom up? Letters with Norman Anderson. Invited presentation at the Detroit Chapter of the American Statistical Association, Farmington Hills, MI.
294. Sawilowsky, S., and Blair, R. C. (November 14, 1986). An examination of the rank transformation in factorial ANOVA. Invited Paper Session, Annual Meeting of the Florida Educational Research Association, Tampa, FL.

Refereed

295. Rothenberg, L., & Sawilowsky, S. (October, 1998). A comparison of seven robust estimators of location using real data sets. Annual Meeting of the Midwest Educational Research Association, Chicago, IL.
296. Rothenberg, L., & Sawilowsky, S. (March 22, 1997). Teaching random assignment. Midwest Conference on Teaching Statistics. Oshkosh, WI.
297. Kelley, D. L., Sawilowsky, S., & Blair, R. C. (October, 1994). Comparison of ANOVA, McSweeney, Harwell-Serlin, and Blair-Sawilowsky tests in the balanced 2x2x2 layout. Annual Meeting of the Mid-Western Educational Research Association, Chicago, IL.
298. Assel, M., & Sawilowsky, S. (October, 1994). Effects of suggestology on multilingual students' reading, math, and science skills. Annual Meeting of the Mid-Western Educational Research Association, Chicago, IL.
299. Sawilowsky, S., Kelley, L., & Markman, B. (October, 1993). Power of meta-analysis in the Solomon Four-group design. Annual Meeting of the Mid-Western Educational Research Association, Chicago, IL.
300. Blair, R. C., & Sawilowsky, S. S. (October, 1992). A distribution-free maximum test of location for two independent samples. Annual Meeting of the Mid-Western Educational Research Association, Chicago, IL.

301. Blair, R. C., & Sawilowsky, S. S. (October, 1991). Confounding covariates in nonrandomized studies. Annual Meeting of the Mid-Western Educational Research Association, Chicago, IL.
302. Sawilowsky, S., a& Markman, B. S. (October, 1990). Guilt. Annual Meeting of the Mid-Western Educational Research Association, Chicago, IL.
303. Snyder, J., & Sawilowsky, S. (October, 1990). A qualitative analysis of communication skills in the Detroit compact initial project. Annual Meeting of the Mid-Western Educational Research Association, Chicago, IL.
304. Snyder, J., & Sawilowsky, S. (January, 1990). A qualitative analysis of communications skills in the Detroit compact initial project. Annual Meeting of the Michigan Educational Research Association, Novi, MI.
305. Hillman, S. B., Becker, M. J., Ogilvie, L. A., & Sawilowsky, S. (October, 1989). Adolescence: substance use and abuse. Annual Meeting of the Michigan Psychological Association, Novi, MI.
306. Ogunyemi, O., & Sawilowsky, S. (October, 1989). An application of the systemic approach to instructional design in the Detroit compact. Annual Meeting of the Mid-Western Educational Research Association, Chicago, IL.
307. Sawilowsky, S. (October 13-15, 1988). Failure of the expected normal and random normal transform in experimental design. 10th Annual Meeting of the Mid-West Educational Research Association, Chicago, IL.
308. Lavelly, C., Berger, N., Bullock, D., Follman, J., Kromrey, J., & Sawilowsky, S. (March 6, 1987). Causes of the criterion problem in evaluation of effectiveness of teaching. North Carolina Association for Research in Education, Raleigh, NC.
309. Lavelly, C., Berger, N., Bullock, D., Follman, J., Kromrey, J., & Sawilowsky, S. (March 6, 1987). A descriptive profile of the Florida associate master teacher. North Carolina Association for Research in Education, Raleigh, NC.
310. Lavelly, C., Berger, N., Bullock, D., Follman, J., Kromrey, J., & Sawilowsky, S. (March 6, 1987). Role, duties, etc., of lead teachers in career ladder programs. North Carolina Association for Research in Education, Raleigh, NC.
311. Lavelly, C., Berger, N., Bullock, D., Follman, J., Kromrey, J., & Sawilowsky, S. (January 30, 1987). Role, duties, etc., of lead teachers in career ladder programs. Southwest Educational Research Association, Dallas, Texas.
312. Lavelly, C., Berger, N., Bullock, D., Follman, J., Kromrey, J., & Sawilowsky, S. (January 30, 1987). Teacher merit pay plan "fresh" ideas. Southwest Educational Research Association, Dallas, Texas.
313. Lavelly, C., Berger, N., Bullock, D., Follman, J., Kromrey, J., & Sawilowsky, S. (January 30, 1987). Expertise in teaching: expert pedagogues. Southwest Educational Research Association, Dallas, Texas.
314. Lavelly, C., Follman, J., & Sawilowsky, S. (November 20, 1986). Causes of the criterion problem in evaluation of the effectiveness of teaching. Mid-South Educational Research Association, Memphis, Tennessee.
315. Lavelly, C., Hines, C., Kromrey, J., & Sawilowsky, S. (November 20, 1986). Survey of characteristics of Florida master teachers. Mid-South Educational Research Association, Memphis, Tennessee.

316. Lavelly, C., Berger, N., Bullock, D., Follman, J., & Sawilowsky, S. (November 19, 1986). Expertise in teaching: expert pedagogues. Mid-South Educational Research Association, Memphis, Tennessee.
317. Sawilowsky, S., & Follman, J. (November 19, 1986). Teacher merit pay plan 'fresh' ideas. 1986 Annual Meeting, Mid-South Educational Research Association, Memphis, Tennessee.
318. Lavelly, C., Berger, N., Bullock, D., Follman, J., Hines, C., Kromrey, J., & Sawilowsky, S. (November 14, 1986.) A descriptive profile of the Florida Associate Master Teacher. 1986 Annual Meeting, Florida Educational Research Association, Tampa, FL.
319. Lavelly, C., Berger, N., Bullock, D., Follman, J., Kromrey, J., a& Sawilowsky, S. (October 31, 1986). Causes of the criterion problem in the evaluation of effectiveness of teaching. Florida Association For Supervision and Curriculum Development, Orlando, FL.
320. Lavelly, C., Follman, J., & Sawilowsky, S. (March 15, 1986). Florida teacher subject matter knowledge test development for merit pay. Eastern Educational Research Association, Miami Beach, FL.
321. Sawilowsky, S., & Bullock, D. (February 28, 1986). Florida teacher subject matter test development for merit pay. Southeast Educational Research Association, Baton Rouge, LA.
322. Lavelly, C., Sawilowsky, S., & Berger, N. (January 30, 1986). Merit pay in Florida. Southwestern Educational Research Association, Houston, Texas.
323. Lavelly, C., Sawilowsky, S., Berger, N., Hall, B., Hines, C., & Follman, J. (November 14, 1985). Florida teacher subject matter knowledge test development for merit pay. Florida Educational Research Association, Miami, FL.
324. Berger, N., Follman, J., & Sawilowsky, S. (November 8, 1985). Content area tests for merit pay. Mid-South Educational Research Association, Biloxi, Mississippi.
325. Berger, N., Follman, J., & Sawilowsky, S. (October 11, 1985). Florida teacher subject matter knowledge test development for merit pay. Northern Rocky Mountain Educational Research Association, Jackson, Wyoming.

Refereed Symposia

326. Sawilowsky, S. (April, 1988). Moral education in the schools: hidden curriculum or overt pedagogy? Annual Meeting of the American Educational Research Association, SIG/Religion and Education. New Orleans, LA.
327. Lavelly, C., Berger, N., Hines, C., and Sawilowsky, S. (April 23, 1987). Teacher Subject Matter Examinations in the Florida Merit Pay Plan. 1987 Annual Meeting of the National Council on Measurement in Education, Washington, D.C.
328. Lavelly, C., Berger, N., Bullock, D., Follman, J., Hall, B., Hines, C., Sawilowsky, S., & Ward, A. (November 14, 1985). Statewide test development. Florida Educational Research Association, Miami, FL.

Dissertation and Thesis

- Sawilowsky, S. (1985). *Robust and power analysis of the 2x2x2 ANOVA, rank transformation, random normal scores, and expected normal scores transformation tests*. Unpublished doctoral dissertation, University of South Florida.

Sawilowsky, S. (1981). *Ethnic personality theory*. Unpublished master's thesis, University of South Florida.

IV. Service

A. Administrative Appointments at Wayne State University in Last Five Years

Assistant Dean

Division of Administration and Organizational Studies, January, 2009 – August, 2010.

Division of Theoretical and Behavioral Foundations, January, 2009 – August, 2010.

Interim Assistant Dean

Division of Administration and Organizational Studies, January, 2008 – August, 2008.

Division of Theoretical and Behavioral Foundations, January, 2008 – August, 2008.

Department Chair

Program Coordinator - Evaluation and Research, College of Education. 1994 – 2009.

C. Committee Assignments

1. University Committee Chaired

1. Center and Institute Advisory Committee
 - a. Subcommittee: Center for Arts and Public Policy, 2004-2006

2. University Committee Membership

2. Center and Institute Advisory Committee, 2002 - 2006
 - a. Subcommittee: Cohn-Haddow Center, 2003
 - b. Subcommittee: Center for Chicano-Boricua Studies, 2003
 - c. Subcommittee: Center for Urban Studies, 2002
3. University Research Grant Program, 2004
4. Graduate Professional Scholarship Committee, 1998-2003, 2007
5. University Research Grant Committee, 2001
6. Graduate Faculty Fellowship Committee, 2001
7. Outstanding Mentor Award Committee, 1999-2000
8. Ad Hoc Committee to Study University Ph. D. Commission Recommendations, 1999 - 2000
9. Review Committee: College of Education, 1997 - 1998
10. President's Award For Excellence in Teaching Committee, 1996-1997
11. President's Award For Excellence in Teaching Committee, 1995-1996
12. Student Academic Preparedness Committee, Academic Senate, 1995
13. Developmental Disabilities Institute, University Affiliated Programs, University Faculty Committee. 1990-1994

3. College/Department Committees Chaired

14. Educational Leadership Faculty Search Committee, 2009-2010.
15. Instructional Technology Faculty Search Committee, 2009-2010.
16. Counseling & Rehabilitation Counseling Faculty Search Committee, 2009-2010.
17. College Plagiarism Committee, 2009.
18. College of Education Personnel Committee (signed faculty evaluations), 1995-1996, 1999-2003

19. EER Faculty Search Committee Co-Chair, 1994-1995, 1995-1996, 2007-2008, 2008-2009
20. College of Education Assessment Committee, 1990-1994

4. College/Department Committee Membership

21. College Personnel Committee, 1994 - 1996, 1997 – 2009, 2011 – present.
22. Doctoral Academic Standards Committee, 1994 – 2009.
23. Replacement Equipment Committee, 1992 – 2000
24. Year 2000 Planning Committee, 1998-2000
25. College Curriculum Committee, 1996 - 1998
26. College of Education Excellence in Teaching Award Personnel Subcommittee, 1995-1996
27. Computer Services Center Director Search Committee, 1995-1996
28. LAN System Advisory Committee, 1992
29. WSU Collaborative Committee, 1991
30. Faculty Executive Committee, 1989-1990
31. Evaluation Specialist, Detroit Compact Initial Project, 1987-1990
32. Theoretical & Behavioral Foundations Personnel Committee, 1987-1989

5. Intra College Service

33. 2003, April. Reviewer: R01 Mock Review. The Center for Health Research, College of Nursing.
34. 2003, May. Reviewer: R01 Mock Review. The Center for Health Research, College of Nursing.

D. Positions Held in Professional Associations

1. President, American Educational Research Association, SIG/ Educational Statisticians, 2008-2009.
2. Program Chair, American Educational Research Association, SIG/Educational Statisticians, 2008 annual conference.

G. Journal/Editorial Activity

1. Editor

2000 - Present

1. *Journal of Modern Applied Statistical Methods*

2008 – Present

2. *Yalkut Shoshanim*

2. Editorial Board Memberships

2009 – present

3. *Michigan Journal of Counseling*

2008 – present

4. *The Open Psychology Journal*

1993 - 1995

5. *Psychological Bulletin*

1985 - 1987

6. *Florida Journal of Educational Research*

Ad Hoc (Periodic) Reviews

2008 – present

7. *Annals of Epidemiology*
8. *BioMed Central Medical Research Methodology*

2007 – present

9. *Statistics in Medicine*

2006 – present

10. *Acta Odontologica Scandinavica*

2005 - present

11. *Journal of Experimental Education*
12. *Measurement and Evaluation in Counseling and Development*

2002 - present

13. *Educational Researcher*
14. *Psychological Science*

2000 - present

15. *Computational Statistics and Data Analysis*
16. *Social Behavior and Personality: An International Journal.*
17. *Journal of Nonparametric Statistics*

1999 - present

18. *Psychometrika*

1998 - present

19. *Journal of Educational and Behavioral Statistics*

1995 - present

20. *Psychological Methods*
21. *Journal of Statistics Education*

1992 - present

22. *British Journal of Mathematical and Statistical Psychology*
23. *Psychological Reports*
24. *Perceptual and Motor Skills*
25. American Educational Research Association, Division D, Measurement and Research Methodology

26. National Council on Measurement in Education

1989 - present

27. American Educational Research Association/SIG Educational Statisticians

1991 - 1993; 1995 - 1996

28. *Psychological Bulletin*

1989- 1990

29. American Educational Research Association/SIG Religion and Education

Shlomo Sawilowsky, Inc.

P. O. Box 48023 Oak Park, MI 48237
(248) 470-1172 snbaay@yahoo.com

<u>Date</u>	<u>Type/Nature</u>	<u>Description</u>
2011 – Present	Litigation Support: Whistleblower	(CRA) Calloway v. Detroit Public Schools Data Analysis Undisclosed Expert for Defendant
2010 – Present	Litigation Support: Foster Care	D. G. et al., vs. C. Brad Henry et al. Case No. 08 CV-07 4GKF FHM U. S. District Court Research design, Psychometrics, Program Evaluation, Data Analysis Submitted Report for Defendant
2009 – Present	Federal Earmark: Self- determination & anti- Bullying	Friendship Circle & Weinberg Village West Bloomfield, MI P. I., Psychometrician, Program Evaluator, Data Analyst
2008 – Present	Grant: United Way	Marygrove College Detroit MI Institute for Arts Infused Education Psychometrician, Program Evaluator, Data Analyst
2010 – 2011	Consulting: Marketing Research	Dynamic Rehabilitation Troy, Michigan Data Analyst
2010	Litigation Support: Mitigation, Damages	(CRA) Ogden v. Saint Mary's Medical Center et al. Case No. 06-11721 U. S. District Court Discovery/Deposition Assistance Undisclosed Expert for Defendant
	Litigation Support: Mitigation, Damages	(CRA) Roberto Landin v. Healthsource Saginaw File No.: 08-002400-NZ-3 U. S. District Court Discovery/Deposition Assistance Undisclosed Expert for Defendant

2009 – 2010	Litigation Support: Foster Care	D. G. et al. v. C. Brad Henry et al. U. S. District court, 08-07 4 GKF FHM Data Analysis Submitted Reports, Deposed for Defendant
2007 – 2010	Grant: U. S. Dept. of Education Office of Innovation & Improvement	Brooklyn Center, Minnesota Northwest Suburban Independent School District Magnet School Rigorous Evaluation Program P. I., Program Evaluation, Data Analysis
	Grant: U. S. Dept. Of Education Office of Innovation & Improvement	Cleveland, Mississippi Public Schools Magnet School Rigorous Evaluation P. I., Program Evaluation, Data Analysis, & Psychometrics
2007 – 2009	Consulting: Standardized Test Construction	Devereux Foundation DECA-IT Psychometrics, National Test Norms, Paper-to-Software Port
2009	Litigation Support: ERISA	(CRA) Caudill et al. v Sears Transition Pay Plan et al. Case No. 06-12866 U. S. District Court Data Analysis Undisclosed Expert for Defendant
	Litigation Support: Mitigation, Damages	(CRA) Terry E. Lange v. Russo Group Enterprises d/b/a Lochmoor Chrysler-Jeep Case No. 09-001762-CD U. S. District Court Discovery/Deposition Assistance Undisclosed Expert for Defendant
	Litigation Support: Mitigation, Damages	(CRA) Powers v. Post News-Week Stations, Inc. (WDIV Channel 4) U. S. District Court Discovery/Deposition Assistance Undisclosed Expert for Defendant
2007 – 2008	Consulting: Sales Incentives	(CRA) BCBS of Michigan, IBU Unit Data Analyst

2008	Litigation Support: Age Discrimination	(CRA) Allen et al. v Sears Home Improvement et al. Case No. 2:07-cv-11706 U. S. District Court Data Analysis Undisclosed Expert for Defendant
	Litigation Support: False Advertising	(CRA) Bobbitt et al. v. Academy et al. Case No. 2:07-cv-10742 U. S. District Court Data analysis, Documentary Analysis Submitted report for Defendant
Circa 1999	Litigation Support: Fraud	City of Detroit (?) v. Defendants 2 & 3 (Detroit Sergeants and Lieutenants Test) Psychometrics, Data Analysis Testified for Defendants
Circa 1998	Litigation: Fraud	City of Detroit (?) v. Defendant 1 (Detroit Sergeants' and Lieutenants' Test) Psychometrics, Data Analysis Deposed for Defendant
Circa late 1990s	Litigation Support: Promotion Bias	(Nine Secretaries) v. Ann Arbor, MI School District Data Analysis for Defendant
1996	Grant: Salvation Army	Harbor Light Center, Detroit, MI. Client-Centered Adult Education Skills P. I., Program Evaluator
1995	Grant: University Of North	Urban Community Service Collaborative Project: High Schools, Agencies, and Students Program Evaluator Florida
1994	Consulting: Special Education	River Rouge, MI, School District: High School Transition Skills Program Evaluator
Circa early-1990s	Litigation Support: Unlawful Discharge	(???) v. Code Alarm Detroit, MI Psychometrics, Data Analysis Testified for Defendant

Circa 1990/1991	Litigation	Smith v. Marvin et al.
	Support:	Detroit, MI
	Medical	Documentary Analysis, Data Analysis
	Malpractice	Deposed, Evidentiary Hearing for Defendants

Notes: Some dates are approximate, or may only refer to begin or end date. CRA = Consulting Resource Associates, Ken Myers, President, 26600 West Fourteen Mile Road, Bloomfield Hills, Michigan 48301, www.cra-consultingresource.com. There were about 1/2 dozen additional litigation support cases (mitigation, economic damages) not listed here where brief, preliminary work was performed via CRA, but no reports were produced.

Shlomo S. Sawilowsky
Resume of Pre-Professorial Work Experiences 1969 – present

My work experiences prior to/overlapping the beginning of my professorial career, include:

- landscaping, On Top Of The World, Orlando area, Florida, 1970
- yacht laminator, Morgan Yacht, St. Petersburg, Florida, 1971
- yacht foreman, Helson Yacht, St. Petersburg Florida, 1972
- drapery installer, Ari's Drapery, St. Petersburg, Florida, 1973
- hardware sales, Dukes Mixture, Atlanta, Georgia, 1974
- restaurant air duct installation and cleaning, Atlanta, Georgia, 1975
- dairy supervisor, Goldenflow, Lowville, New York, 1976
- dairy supervisor, J&J, Morristown area, New Jersey, 1977
- mattress manufacturing, Antonori Bedding, St. Petersburg, Florida, 1980
- convenience store manager, L'il General, Tampa, Florida, 1981
- night monitor & counselor, court-ordered half-way house (adjudicated minor and adult drug offenders), St. Petersburg, Florida, 1983
- graduate teaching assistant, University of South Florida, 1983
- associate director,* Chabad House of Tampa, Florida, 1980 – 1985
- graduate research assistant, University of South Florida 1984 – 85
- Rabbi and Director, Chabad House of Pinellas County, Florida, 1985 – 1987
- night security, Michigan Bakery, Detroit, Michigan, 1987
- attaché,* Council of Orthodox Rabbis of Greater Detroit, Southfield, Michigan, 1987 – 1990
- Judaic studies instructor,* Chabad of Oak Park & West Bloomfield, Michigan, 1987 – 2006
- Associate Rabbi,* Bais Chabad of Farmington Hills, 2007 – present

Note: * - volunteer

Considered Materials
List of Shlomo S. Sawilowsky's Considered Materials

In addition to materials listed in the "References" section of this report, I was provided the following documents to review in this case:

CFSD Client Services.xls
CFSR response.doc
Child maltreatment date 042811.doc
Copy of CW Tenure 5 years.xls
Copy of referralremoval_data 3-27-2011.xls
Key Child Welfare Reports Guide.doc
Key Reports Examples.xls
Oklahoma context data.pdf
Overview of the Oklahoma CFSR.DOC
SFY Shelter Report (2).doc
SILT Dashboard Data (2) 041311.pdf
States Data re Adoptions 2005-2009 (3).xls
5-3 OCA Investigations of OKDHS Custody 2009.xls
5-3 OKDHS Custody Children (KIDS) with Allegations of CAN 2009.xls
5-5 Placement Resources OKDHS Custody Children 2009.xls
DHS 3 rd Supp to P's 5 th RFP 4-13-10.pdf
DHS 4 th Supp to P's 5 th RFP 5-6-10.pdf
5-1 OKDHS Custody Children 3-1-2010.xls
DHS 2 nd Supp to P's 5 th RFP 3-31-10.pdf
DHS 4 th Supp to P's 5 th RFP 5-6-10.pdf
Key to Class Sampling #1.pdf
Key to Class Sampling #2.pdf
Email 09.06-02 DG v. Henry et al – Correspondence from Donna De Simone.pdf
Email 09.06-11 Plaintiffs' Fifth Request for Production of Documents.htm
Email 09.06-11 Plaintiffs' Fifth Request for Production of Documents.html
Email 09.06-12 Request No. 3 in Plaintiffs' Fifth Request for Production.html
Email 09.09-08 Request No. 3 in Plaintiffs' Fifth Request for Production.html
Email 09.09-17 Request No.3 in Plaintiffs' Fifth Request for Production.html
Email 09.09-22 Request No.3 in Plaintiffs' Fifth Request for Production.html
Email 09.10-28 Request for Meet and Confer.htm
Email 10.02-08 Plaintiffs' Fifth Request for Production.htm
Email 10.02-09 Plaintiffs' Fifth Request for Production.html
Email 10.02-11 Named Plaintiffs' November 11 2009 Motion to Compel.htm
Email 10.02-23 Feb. 23 Meet and Confer.html
Email 10.02-25 Feb. 23 Meet and Confer.htm
Email 10.03-02 Feb. 23 Meet and Confer.htm
Email 10.03-02 Feb. 23 Meet and Confer.html
Email 10.03-03 Feb. 23 Meet and Confer.htm
Email 10.03-09.pdf
Email 10.03-29 DG v. Henry -- Correspondence from Donna De Simone.htm

Email 10.03-31 Plaintiffs' Fifth Request for Production.html
Email 10.04-01 Motion to Compel.html
Email 10.04-05 Case Record Review.htm
Email 10.04-21 Defendants' Response to Document Request No. 3 in Plaintiffs' Fifth Request for Production. html
Email 10.04-27 Defendants' Response to Document Request No. 3 in Plaintiffs' Fifth Request for Production.htm
Email 10.05-14 DHS Abuse and Neglect Investigations List.htm
Email 10.05-28 Case Record Review.pdf
Email 10.06-01 Case Record Review FUTURE PRODUCTIONS.htm
Email 10.06-09 DG v. Henry – Documents Produced Responsive to 5 th RFP.htm
Email 10.06-14 Case Record Review.htm
Email 10.06-30 D.G. v. Henry.htm
Email 10.07-07.htm
Email 10.07-12 Issue with Case Record Review Index.htm
Email 10.07-27 Case Record Review Production Issues.pdf
Email 10.08-05 D.G. v. Henry – correspondence.htm
Letter 09.05-27 To Kapell fr De Simone re Hess Expert Report, via email.pdf
Letter 10.03-23 To Kapell, Lowry fr De Simone re 5 th RFP.pdf
Letter 10.03-31 to Don Bingham.pdf
Letter 10.04-12 to David Page.pdf
Letter 10.05-21 To Kapell fr De Simone re List of Case Record Review.pdf
Letter 10.05-26 To Kapell fr De Simone re YI native format.pdf
Letter 10.06-09 From Kapell to DMD re PDFing 5 th RFP docs.pdf
Letter 10.06-16 from Kapell to Bingham, De Simone re Case Record Review.pdf
Letter 10.06-17 To Kapell fr DPP re case file production.pdf
Letter 10.06-30 to Bingham, De Simone, Koepsel.pdf
Letter 10.07-20 fr BK to De Simone and Koepsel.pdf
Letter 10.07-30 To Kapell fr DPP re case mgmt, pltf's expert disclosures, via email.pdf
Letter 10.08-05 to David Page.pdf
Letter 10.08-05 To Kapell fr DMD, KEK in resp to production issues via email only.pdf
Plaintiffs' Fifth Request for Production of Documents 5-15-09.pdf
Stipulation.doc
5-1 OKDHS Custody Children 3-1-2010 – Expert Sample 7-7-10.xls
5-3 OCA Investigation of OKDHS Custody 2009 – Expert Sample 7-6-10.xls
5-3 OKDHS Custody Children (KIDS) with Allegations of CAN 2009 – Expert Sample 7-6-10.xls
Email 10.05-29 List of 200 selected case files for the Case Record Review.pdf
Email 10.07-06 DG v. Henry - - Selected files for Goad Expert Review.pdf
E-mail 10.07-09 DG v. Henry - - Selected files for Goad Expert Review.pdf
List of 200 Sample Children 5-28-10.xls
John Goad Deposition Exhibits 1-14
Milner 00001-048618 (includes dat & txt Files)
Milner 048619-133440
FW DHS policies reviewed by Goad & Hess.htm
FW Materials missing from Goad considered materials production.htm
Goad – 000001-001677

Expert Report – Supplemental 2-25-10 (Oklahoma case).pdf
Expert Repot 3-12-09 (Oklahoma case).pdf
Expert Report 5-19-09 (Oklahoma case).pdf
Expert Report 9-30-09 (Oklahoma case).pdf
Condensed final of Eugene Reynolds.pdf
Reynolds, PhD, Eugene – Rough Draft.Rtf
Eugene Reynolds Deposition Exhibits 1-22
1st Round CFSR Key Findings Report.pdf
75 U.S.C. section 671.pdf
1997.12 Interim Study 97-28.pdf
2001 Governor’s Task Force on Children in Custody Annual Report.pdf
2007.10.03 DeClan Stewart.pdf
2010.04.16 Naomi Whitecrow.pdf
2010.05.25 Aja D. Johnson.pdf
2010.05.27 Horrific abuse marked last 3 years of Aja Johnson’s life.pdf
2010.10.20 Lawsuit filed in 2009 Edmond foster child’s death.pdf
2010.11.30 Maggie May Trammel.pdf
CFSR-SFO-2.1-00032.pdf
WhiteA-007612.pdf
YI613-00001.pdf
H_Hendrick-Docs-2008-00254-00274.pdf
PLAINTIFFS 07574-07663.pdf
Safety-23-00001-00030.pdf
#26 - Final OCA with CW Custody.xls
66 & 67 – APSR-2010-6.30.09-00001-00156
2010.11.15 Def’s Reply (Dkt.436).pdf
2011.01.18 Def’s Resp. (Dkt. 475).pdf
AFCARS Report.pdf
CFSR-PIP-2009TO2011-QR-00053-00056.pdf
CWFL-MN-1.21.09-00004-00007.pdf
Issuesw-AccessComm-00003-00004, 94.pdf
JonesM-008371.pdf
OCDRB-2008 AnnRpt-00001-00038.pdf
Safety-17-00080-00084.pdf
YI616A-00605.pdf
YI617A-00001-00002.pdf
YI617A-00329-00330.pdf
YI624-00006, 744.pdf
Deposition transcript of Nancy Robinson taken on 11-9-10
Deposition exhibit #350 to Nancy Robinson’s deposition taken on 11-9-10
Deposition transcript of John Goad taken on 9-23-10
Deposition exhibits #343 through #346 to John Goad’s deposition taken on 9-23-10
Deposition transcript of Jin Jew taken on 11-9-10
Deposition transcript of Jayaprakash Nair taken on 12-1-10
2009.01.01 CFSD Org Chart (Org P&P-4-00001).pdf
2010.04.08 Oklahoma DHS employees learn of plan to reduce pay.pdf

2011.03.14 Obradovic Report with supplements.pdf
Hitting the MARC (Plaintiffs 00955-00986).pdf
USDA Expenditures on Children by Families.pdf
YI613-00011.pdf
Obradovic Report – 3-15-11.pdf
Obradovic000001-000013.pdf
Selected pages from "Adolescent Relations with Mothers, Fathers and Friends" by James Youniss and Jacqueline Smollar, 1985 by the University of Chicago Press